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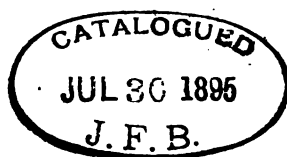
EDITED BY
JOHN WILLIAM MOORE, B.A., M.D., M.Ch., UNIV. DUBL.;
FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS OF IRELAND;
PHYSICIAN TO THE MEATH HOSPITAL AND COUNTY DUBLIN INFIRMARY;
CONSULTING PHYSICIAN TO CORK-STREET FEVER HOSPITAL;
EX-SCHOLAR OF TRINITY COLLEGE, DUBLIN.

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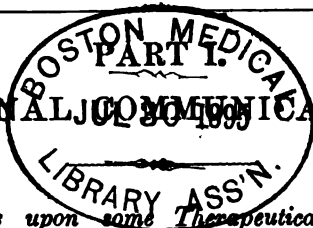


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THE DUBLIN JOURNAL OF MEDICAL SCIENCE.

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ORIGINAL COMMUNICATIONS.



Art. I. — *Remarks upon some Therapeutical Traditions.* By
WALTER G. SMITH, M.D.; President of the Royal College of
Physicians.*

(1) A FEW words, in the first place, upon the influence of diet upon diseases of the skin. I have long since come to the conclusion that the effects of diet in the therapeutics of diseases of the skin are commonly much overrated, not only by the public but by the profession. Some text-books upon diseases of the skin give us minute dietetic details, and many practitioners supply precise instructions to their patients as to what they should eat and what they should avoid—directions which I doubt they would strictly follow themselves if similarly affected.

Now, with a few exceptions, such as urticaria, the polymorphous erythemata, and some cases of eczema, there is, I consider, little reason to particularise beyond urging our patients to follow the simple rule of moderation in all things—eating as well as drinking. In our male patients total abstinence from alcohol is often the one thing needful. Idiosyncrasy comes in largely, and upon this point an intelligent patient ought to know more about his own stomach than any doctor can tell him.

One of the most deeply-rooted traditions in dietetics is the prohibition of salt food in diseases of the skin, and most patients

* The substance of an Address, introductory to the opening of the Medical Section of the Royal Academy of Medicine on Friday, November 16, 1894. [For the discussion on this Paper, see page 81.]

expect, and are accordingly assured that they cannot, for example, be allowed to touch a morsel of ham or bacon. Yet I am convinced that this almost universal opinion, albeit venerable by age and accredited by high authority, is a delusion, and is lazily acquiesced in by practitioners without due examination. Have any of my hearers made definite observations upon this point? For many years past I have as a rule ignored it, and neither my patients nor myself have had reason to regret the liberty accorded to them of a sudden change from minus salt food to plus salt food. To many, and especially to country patients, it is a serious deprivation to be obliged to deny themselves one of the staple articles of rural diet, and that the most tasty item in the week's menu. It may be felt by some who hear me that I am flogging a dead horse, and that they at any rate do not countenance old wives' traditions. But it cannot be denied that tradition and authority hold powerful sway over the minds of practitioners, and it is not always easy to escape from the shackles of narrow ideas imbibed during one's student career.

Chloride of sodium is a very harmless salt, and we all ingest abundantly more than we actually need for the organism—in fact, people liable to urinary gravel should be advised to take as much salt with their meals as their palates will tolerate. Plenty of common salt seems to be inimical to the formation of urinary calculi, especially uric acid concretions, for it is well attested that seafaring men, who habitually consume much salt, and the inhabitants of a district of Norfolk, where the drinking water is brackish, are singularly free from stone as compared with the dwellers in adjacent districts in that county.*

I often say to my patients, there is not much difference between taking the salt *in* your food and on the plate *with* your food—and is it not true that a person with weakly digestion or a jaded appetite will relish and easily digest a thin slice of ham when their stomach would revolt against other meat? If the prohibition be not well founded, then it is time for physicians to cast off a mere blind following of tradition, and to educate their patients up to a more rational state of mind. But, it may be asked, and fairly, is there not some basis for this tradition, so religiously observed by doctors and their clients? There are, I think, two grains of wheat in the bushel of chaff. First—It may be conceded that some kinds of salt meat are tougher, less nutritious, and less

* Roberts' Croonian Lectures. 1892. P. 48.

digestible than well-cooked fresh meat; and it is needless to enlarge upon the ill effects of an exclusive and prolonged salt diet. But how often does this possibility occur in civil practice, or among well-to-do patients? Is there satisfactory evidence that salt meat, in moderation, acts as a reflex irritant to the skin? I think not. The second morsel of truth lies in connection with gout. It is the present habit to ascribe many skin diseases to gout, and we hear every day of "gouty eczema," "gouty psoriasis," and the like, and many queer nondescript ailments are at once shunted off the main line to a gout-siding. I will not stop to inquire how much truth there is in this statement, or to what extent it may be but a passing wind of fashion or an excuse for ignorance. At any rate we have to deal with many people who either have, or like to think they have, gout, and who are very solicitous about their culinary arrangements, and ask us for guidance.

Now Sir W. Roberts has shown that there is a striking relation between the local distribution of deposits of urates in the body and the percentage of sodium salts contained in the several organs and tissues. "Indeed," he adds, "it might apparently be said with truth that if we possessed the power of regulating the dosage of sodium salts in the fluids and tissues of the system, we should be able effectively to control the occurrence of uratic depositions."*

Very small quantities of sodium chloride (0.1 per cent. or even less) appreciably favour the precipitation of the crystalline bi-urates. Hence, it seems reasonable to direct gouty patients to restrict, as far as practicable, the use of common salt with their meals, and to avoid mineral springs which are rich in sodium salts. And here let me add a word of caution not to fall into the trap of regarding gout and uric acid gravel, *i.e.*, precipitation in the urinary passages, as convertible terms, especially from a therapeutic point of view.

In their long and large experience, neither Sir Alfred Garrod nor Sir William Roberts can recall a single instance in which a paroxysm of gout and a paroxysm of uric acid gravel broke out synchronously; there is no correspondence between the prevalence of gout and stone in the several counties of England and Wales; and in Scotland, where gout is rare, stone is comparatively common.^b

* Croonian Lectures. 1892. P. 124.

^b Roberts, *loc. cit.* P. 56.

I have already alluded to the different relation in which the tendency to the formation of uric acid concretions stands in relation to sodium chloride—a striking illustration of the diverse pathology of gout and of uric acid deposition.

(2) I shall next allude to the employment of alkalies, and particularly of lithia, in the treatment of gout and various skin affections. This is certainly a very popular plan, and is apparently based upon a plausible and simple foundation, *i.e.*—of converting uric acid into its most soluble salts, and so facilitating its removal from the system. Yet does it not rest upon a fallacy or rather upon several fallacies?

As to the general question, Sir W. Roberts shows, on experimental as well as clinical grounds, that the belief in an acid dyscrasia in gout rests upon a pure assumption, and in this he is in accord with Sir Alfred Garrod.*

But it will be urged that careful experiments outside of the body surely prove that carbonate of lithia and, I may add, the last fad, piperazine, possess a high solvent power over free uric acid. Grant all this. Still such crude and simple laboratory experiments have little or no practical bearing on therapeutics of gouty affections, for it has been demonstrated that the “addition of carbonate of lithia or piperazine, in the proportion of 0·1 per cent. and 0·2 per cent. to blood serum or synovia, had not the slightest effect in enhancing the solvent power of these media on sodium bi-urate, nor the slightest effect in retarding its precipitation from serum and synovia artificially impregnated with uric acid.”^b

And there is another fallacy which is not quite so readily apparent. Our body contains a large amount of alkaline salts, mainly sodium salts. What then is the effect of administering to a patient a few grains, say, of carbonate of lithia? The lithia water of the B. P. ought to contain 10 grs. of carbonate of lithia to the pint. Suppose a patient drank a quart in the 24 hours—*i.e.*, 20 grs. of L_2CO_3 .

It is, I fancy, innocently apt to be assumed that because urate

* If alkalies have any beneficial action in gout it is certainly not due, as Roberts shows, to their solvent action upon the material of gouty concretions. (*Loc. cit.* P. 130.)

^b The normal alkalescence of the blood is, doubtless, liable to diminution and slight variations, but no one has ever yet found living human blood to possess an acid reaction. Uric acid has been found in the blood in many other diseases besides gout, and, moreover, the exact quantitative determination of uric acid in blood is beset with grave difficulties.

of lithia is more soluble than urate of potash or soda, therefore the lithia will at once seize on the uric acid and perchance displace it from its other alkaline salts. But this is a misconception of chemical philosophy, and ignores an important and fundamental principle of chemical dynamics—the full significance of which has only of late been recognised. I refer to the great principle of the action of the relative amounts of substances intervening in a chemical reaction.

This problem was first investigated by Wenzel in 1777, and some years later by Berthollet, in his remarkable essay on Chemical Statics. He clearly showed by many proofs that, to use his own words, “An excess of quantity of the body whose affinity is the weaker, compensates for the weakness of affinity,” and he gave the name *mass* to this active quantity of the body taking part in a given chemical change.

Berthollet has taught us that in a solution of acids and bases the acids are partitioned among the bases in proportion to their *masses*. Of what avail, then, for a patient to swallow daily a few grains of lithia, which can combine, in the presence of a large excess of soda, with only an infinitesimal fraction of uric acid.

For my own part, I never prescribe lithia water to my patients. There is no objection to their taking it if they choose. A pint of lithia water is, to all intents, equivalent to a pint of pure water.

Similar considerations apply with added force to many other much-vaunted mineral waters; and the elaborate chemical analyses of the various springs—all arising, it may be, from one geological stratum—that are paraded by balneologists, only prove that many persons are unable to see a joke, and cannot perceive that the difference is, as has been said, only that betwixt tweedle-dum and tweedle-dee.*

To avoid misunderstanding I must point out that these considerations do not apply to the power which we possess in altering at will the reaction of the *urine* from alkaline to acid, and still more readily from acid to alkaline. There is an essential difference between the two problems.

(3.) Let me adduce another example that touches practical pharmacy as well as therapeutics. Some years ago pills coated with keratin were introduced, and are still prescribed. The notion was that the keratin would act like a time-fuse. For, it was alleged, keratin is insoluble in the acid contents of the

* British Medical Journal. November 12, 1887. P. 1065.

stomach, but will be dissolved in the alkaline juices of the small intestine. Hence, if we wish to delay the action of a drug—*e.g.*, salol or salacetol—until it reaches the intestine, wrap it deftly up in keratin, and, lo! it passes unscathed through the stomach, reserving its activities for the duodenum and jejunum. where it is said to undergo a sort of saponification. A pretty and ingenious hypothesis! But how stand the facts?

There is no doubt whatever that the surface of the *mucous membrane* of both small and large intestine reacts alkaline, and that it is exceptionally rich in sodium carbonate. It is also true that the bile and pancreatic fluid are alkaline liquids. Hence it would seem obvious, and such teaching has long passed current in the systematic text-books, that the *contents* of the small intestine, at any rate in their upper portion, must needs be alkaline.

But it has been long known that acetic and other acids are found in the products of digestion, and the very careful observations and experiments of Macfadyen, Nencki, and Sieber (*Arch. f. exp. Path. und Pharm.*, Bd. 28) have taught us that the *contents* of the small intestine are normally acid, and sufficiently so to overpower the alkalinity of the intestinal sodium carbonate.

Where does all this acid come from? It arises mainly from lactic and acetic acids, which are freely produced by decomposition of the carbohydrates of the food under the influence of various micro-organisms which these observers have identified and cultivated.

We see, then, that the theory of keratin-coated pills, and the ingenious suggestion of Ewald and others to use salol as a test of the rate of passage through the stomach into the small intestine, are both inadmissible, and are founded upon misconceptions.

ART. II.—*Clinical Report of the Rotunda Lying-in Hospital, for Year 1892–1893.** By WILLIAM J. SMYLY, M.D.; Master, Rotunda Lying-in Hospital; JOHN H. GLENN, M.B.; and HASTINGS TWEEDY, L.R.C.S.I., Assistants.

DURING the year ending November 1st, 1893,—
 1,288 patients were confined in the hospital.
 2,105 „ „ at their own homes.

 3,393 cases relieved.

* Read before the Section of Obstetrics in the Royal Academy of Medicine in Ireland, on Friday, November 23rd, 1894.

Table of Deaths.

Name	Admitted	Delivered	Died	Cause
1. M. -	Dec. 17, '92	Dec. 18 -	Dec. 18	Eclampsia
2. M.M'C.	" "	" "	" "	Ruptured cervix
3. M.N. -	Jan. 1, '93	Jan. 27 -	Jan. 27 -	Eclampsia
4. M.A.H.	Mar. 9, '93	Mar. 10 -	Mar. 10 -	Phthisis
5. M.M'D.	April 7, '93	April 7 -	April 8 -	Septicæmia
6. M.F. -	" 2, '93	" 8 -	" 21 -	Embolism
7. M.H. -	May 31, '93	May 31 -	June 1 -	Post-partum hæmorrhage—Myoma
8. M.P. -	June 19, '93	June 19 -	" 19 -	Mitral stenosis
9. M.M'C.	" 24, '93	" 28 -	July 1 -	Cerebro-spinal meningitis
10. L.C. -	" 25, '93	" 25 -	" 14 -	Septic pyæmia—Ruptured symphysis
11. C.B. -	July 18, '93	July 18 -	" 18 -	Accidental hæmorrhage
12. M.O'C.	" 24, '93	" 24 -	" 29 -	Sepsis
13. M.A.R.	Aug. 31, '93	Undelivered	Sep. 9 -	Uræmia
14. K.L. -	Sep. 24, '93	Sep. 24 -	" 26 -	Peritonitis
15. K.D. -	" 30, '93	" 30 -	" 30 -	Accidental hæmorrhage
16. S.W. -	" 25, '93	" 25 -	Oct. 20 -	Mania
17. L.M'G.	Oct. 29, '93	" 29 -	Nov. 9 -	Sepsæmia

Table showing Number and Nature of Cases in Extern Maternity for Year 1892-93.

Total number	-	-	2,105	Secondary hæmorrhage	-	1
Abortions	-	-	247	Prolapse of uterus	-	2
Hydramnios	-	-	9	Adherent placenta	-	18
Carneous mole	-	-	1	Deformity of pelvis	-	2
Face to pubes	-	-	9	Version	-	15
Face	-	-	8	Forceps	-	28
Brow	-	-	8	Mania	-	1
Breech and lower extremities	-	68		Episiotomy	-	1
Shoulder and upper extremities	-	7		Deaths from non-puerperal causes	-	2
Twins	-	29		Mortality	-	5
Prolapse of funis	-	7		Children dead, born	{ Fresh	46
Placenta prævia	-	16			{ Macerated	11
Accidental hæmorrhage	-	14		Hydrocephalus	-	1
Post-partum do.	-	24		Ophthalmia neonatorum	-	2

*Table showing Nature of Cases in Rotunda Lying-in Hospital
for Year 1892-93.*

Total number of labours	- 1,288	Induction of premature labour	- 6
Primiparae	- - - 458	Turning	- - - 11
Abortions	- - - 41	Forceps	- - - 45
Hyperemesis	- - - 1	Perforation	- - - 1
Hydramnios	- - - 3	Episiotomy	- - - 2
Carneous mole	- - - 1	Symphysiotomy	- - - 3
Face to pubes	- - - 8	Eclampsia	- - - 9
Face	- - - 3	Insanity { Mania	- - - 3
Brow	- - - 5	{ Melancholia	- - - 1
Breech and lower extremities	- 48	Phlebitis	- - - 4
Shoulder and upper extremities	- 3	Phlegmasia	- - - 1
Twins	- - - 19	Embolism	- - - 1
Prolapse of funis	- - - 12	Deaths from non-puerperal causes	- 4
Placenta prævia	- - - 8	Morbidity ^a	- - - 60
Accidental hæmorrhage	- 12	Mortality ^b	- - - 18
Post-partum do.	- 24	Children still-born {	Fresh - 66
Secondary do.	- 1		Macerated - 26
Prolapse of uterus	- - - 1		Putrid - 3
Infusion intravenous	- - - 2	Spina bifida	- - - 2
Do. subcutaneous	- - - 1	Anencephalous	- - - 4
Adherent placenta	- - - 19	Cephalhæmatoma	- - - 1
Myoma	- - - 1	Ophthalmia	- - - 3
Deformity of pelvis	- 10	Fœtus papyraceus	- - - 1

In our former Report of the Lying-in Hospital we stated that the morbidity of the patients delivered in the wards was a safer test of the precautions taken to guard them from septic infection than the actual mortality. The present Report confirms that opinion, for the number of deaths during the past year from that cause would lead one to imagine that our precautionary measures had been less successful than in the two preceding years, when we were fortunate in having no fatal case to report. The morbidity, on the other hand, is decidedly less, and would lead to an opposite and, we believe, more correct conclusion. By morbidity is meant the number of cases in which the temperature even once exceeded 100°. The details of the fatal cases are even more convincing, three out of the five having been admitted in an advanced stage of the disease, a fourth was infected from an abscess in the pubic symphysis, the genital canal remaining healthy; and the fifth was the result of a surgical operation, and is fully detailed under "symphysiotomy."

CASE I.—M. M'D., aged thirty-four; 7-para; admitted April 7th, 1893, was sent in from the country in advanced stage of septicæmia.

^a 4·5 per cent.

^b 1·3 per cent.

Temperature on admission, 103.6° ; pulse very feeble, and too rapid to be counted. Breech presenting—vagina douched with creolin—a foot brought down and child extracted, deeply asphyxiated but resuscitated. Mother died the day after admission. Autopsy—Purulent peritonitis, liver fatty, spleen enlarged, old pleuritic adhesions. Child developed cellulitis of the neck and died on the second day.

CASE II.—L. C., aged twenty-eight; 3-para; admitted with temperature 100.6° ; six and a half hours in labour; delivered of a dead female child, weighing nine and a half pounds. After delivery she was unable to turn in bed, and screamed with agony when moved. The pain was referred to the symphysis pubis, and there was tenderness on pressure over the joint. Diagnosis, ruptured symphysis. Third day temperature rose to 102.2° ; sixth day it reached 104° ; pulse 140; severe rigors on the succeeding days and other symptoms of pyæmia. The lochia, however, continued normal, and there was no tenderness over uterus. Death on the 11th day. Autopsy—Separation of pubic symphysis, the space between the bones being filled with pus; pyæmic abscesses in various organs; uterus and appendages healthy.

CASE III.—M. O'C., aged twenty-six; 1-para. The patient was sent into hospital after an unsuccessful attempt to deliver with forceps had been made by a practitioner outside. On admission she was bleeding profusely from an extensive laceration of the vaginal wall and perineum. She was so collapsed that immediate delivery was postponed. The vagina having been douched out with hot water and creolin, it was plugged to control the hæmorrhage and bring on labour pains. Ten hours after admission temperature rose to 102° . A dead child was extracted with forceps. Temperature next day 102° ; on the third day it rose to 104° ; pulse 150; vaginal wound sloughing. She died of septicæmia on the fifth day.

CASE IV.—K. L., aged twenty-nine; 8-para. Temperature on admission 102.9° , delivered of a seven months' foetus which only survived an hour and a half; temperature same evening 105° . Abdomen tympanitic, catarrhal pneumonia of left lung. Died third day. Autopsy—Purulent peritonitis, pleuro-pneumonia on left side.

ABORTIONS.

Forty-one women aborted, eighteen of whom required no assistance. In three the uterus was emptied by the finger alone, and in nineteen the uterus was curetted after the removal of the ovum. One patient only was plugged.

The general rules adopted in the treatment of abortion were to leave the case to nature, unless there were special indications for direct interference. Opium was given to stop pains, and hydrastis

canadensis for hæmorrhage. The indications for interference were—First, hæmorrhage. In these cases the os was generally sufficiently dilated to allow of the immediate emptying of the uterus—in one case only was there severe hæmorrhage with an insufficiently dilated os; she was plugged. Second, incomplete abortion. If the fœtus or any other part of the ovum had escaped, the same rule was adopted as in labour at term—viz., to wait half an hour, and if the rest of the ovum did not come away, to empty the uterus; further delay could serve no good purpose, and would expose the patient to the risks of hæmorrhage and putrefaction, necessitating removal under less favourable circumstances. Excepting the one patient who was plugged there was no abnormal rise of temperature or return of hæmorrhage.

BROW PRESENTATIONS.

There were three brow presentations; two cases were terminated by forceps. The other was left to nature.

FACE PRESENTATIONS.

Four face presentations, all of which terminated naturally.

CROSS BIRTHS.

There were three cases of transverse or oblique presentation. In one, cephalic version was performed by external manipulation before the membranes had ruptured, and the child was expelled alive by the natural efforts. The other two children were dead and macerated. One was delivered by bipolar version and the other by internal version. All the mothers did well.

PROLAPSE OF FUNIS.

This complication occurred twelve times with the loss of four children—three times in twins, twice with the second child, and once with the first. In two cases of symphysiotomy the children were saved. The forceps was used twice, one child was alive. Two cases of breech with rapid extraction had the same result. In one case of accidental hæmorrhage the child was alive. Manual reposition of the cord was tried in every suitable case.

PLACENTA PRÆVIA.

There were eight cases with one death, the result of pulmonary embolism. In three cases the children were born dead. Two cases

were left to the natural forces of labour. Forceps was applied in one instance, and in the remaining five cases the treatment consisted of rupturing the membranes, turning and bringing down a leg through the cervix; then leaving the woman to be delivered by the natural process. In some instances the foot remained protruding through the vulva for hours before pains were excited, but there was no hæmorrhage.

CASE.—M. F., aged twenty-eight; 5-para. Delivered, April 3, 1893. Partial placenta prævia, os size of five-shilling piece, version foot brought down, phlebitis of varicose vein in calf of right leg. Symptoms of pulmonary embolism set in on 18th day. *Post mortem*—Clot in pulmonary artery.

ACCIDENTAL HÆMORRHAGE.

Twelve cases with two maternal and six foetal deaths. In three cases no special treatment was required. In three version alone was adopted, while the remaining six cases were plugged and bound with a tight binder. Version was performed subsequently in three of these cases as further treatment.

The vaginal plug, when efficiently applied, before the rupture of the membranes, stopped the hæmorrhage in every instance, and had the further advantage of inducing labour pains and causing the rapid dilatation of the os.

Accidental Hæmorrhage—Fatal Cases.

CASE I.—C. B., aged thirty-two; ninth pregnancy. Patient very anæmic on admission, profuse flooding, os undilated, vagina douched with creolin lotion and plugged. Labour pains having set in the plug was removed, os size of a shilling, douched again; version performed by bipolar method and foot brought down, child slowly extracted. Severe post-partum hæmorrhage. Patient collapsed.

CASE II.—K. D., aged thirty; sent in from external maternity. On admission was blanched, temperature subnormal; pulse 140. Plug removed, membranes having ruptured long before; os size of two shillings, rigid; head presenting; no foetal heart. Perforation; extraction with cranioclast being impossible, version performed. Patient collapsed. Cervix had to be divided with scissors, *post-mortem* to complete delivery.

POST-PARTUM HÆMORRHAGE.

There were twenty-four cases of post-partum hæmorrhage. Six were traumatic, due to lacerations of the cervix—in three the rents were closed by suture, and in three plugged with iodoform

gauze. The others were atonic—viz., six, the placenta or membranes had to be removed manually; two plugged with iodoform gauze; all douched with hot water. The perchloride of iron was not used in any case. One patient with a submucous myoma died.

CASE.—M. H., aged thirty-one; 8-para; admitted May 31st, 1893. Normal labour, uterus remained abnormally large, clots pressed off, uterus contracted well; hæmorrhage ceased. One hour after delivery hæmorrhage returned; large quantity of clots expressed, uterus again contracted well and hæmorrhage ceased. Four hours later hæmorrhage recurred, uterus again relaxed, clots again expressed, hæmorrhage controlled. Patient rallied for a time, but gradually sank and died. Autopsy—A submucous myoma about as large as a Tangerine orange was found attached to the posterior wall of the fundus uteri.

DEFORMED PELVES.

There were ten cases of contracted pelvis; eight were flattened pelves, and two generally contracted flattened pelves. The measurements were taken with Skutsch's pelvimeter, or Dr. Bullit's modification of the same.

Four of these were delivered by forceps—one by perforation; two by induction of premature labour, and three by symphysiotomy.

Three mothers died, two from improper use of the forceps previous to admission, and one from symphysiotomy. These cases are detailed under septicæmia, forceps and symphysiotomy. In the treatment of these cases, where a living child can reasonably be expected, we do not now employ prophylactic version, but rely more upon the powers of nature to mould the fœtal head to the brim, and adhere as strictly as possible to the rule only to employ the forceps in those cases where the head has already passed the brim by at least its greatest transverse diameter. The cases of M. M'C., M. O. C., and M. A. D., are painful illustrations of the importance of this rule. Another very instructive example was that of M. B., aged twenty-seven, admitted 21st August, 1893. Head presenting movable above brim. Labour had commenced at 6 30 a.m., membranes ruptured 9 15 p.m. Strong labour pains. Evening of 22nd, head was fixed in brim which was contracted. Large caput succedaneum low down in pelvis, fœtal heart 130, os fully dilated, chin of fœtus a hand's breadth above symphysis pubis. Neville's forceps applied, and an ineffectual attempt made to extract the child. Next morning forceps again employed and child extracted alive without difficulty.

VERSION

(November, 1892, to November, 1893).

Version was performed eleven times. In two instances, external version was accomplished. In one of them a transverse presentation was changed into a vertex. In the other a head was converted into a breach as part of the treatment in ante-partum hæmorrhage.

The indications for version were :—

Prolapse of cord	-	-	-	1
Craniotomy	-	-	-	1
Oblique positions	-	-	-	2
Placenta prævia	-	-	-	5
Accidental hæmorrhage	-	-	-	3

Forceps were used in forty-five cases, twenty-seven of which were primiparæ.

Indications :—

Delay, i.e., over five hours in second stage	-	16
Threatened rupture of uterus	- - -	1
Rise of temperature	- - -	7
Phthisis	- - -	1
Failure of foetal heart	- - -	10
Placenta prævia	- - -	1
Prolapse of funis	- - -	2
Occipito-posterior positions	- - -	5
Brow presentations	- - -	2

Three mothers and seven infants died.

One patient developed acute congestion of the lungs the day after delivery, which only lasted twenty-four hours, and which we attributed to the administration of chloroform in close proximity to a candle. The perineum which was lacerated failed to unite and developed a puerperal ulcer. She went out well on the 18th day.

One mother died of septicæmia and is recorded under that heading, another of phthisis; the third, M. M'C., aged thirty-nine, 1-para, had been four days in labour before admission, and an unsuccessful attempt to deliver with forceps had been made by a practitioner outside. Admitted in a state of collapse. The pelvis was deformed and the head freely movable above the brim. Cervix torn and hanging down into the vagina by a narrow pedicle. Profuse hæmorrhage. Delivery was postponed owing to condition of the patient. Vagina plugged to control hæmorrhage, and stimulants given. Patient had some sleep during the night, and

the next morning a dead fœtus with a fractured skull extracted with forceps. The head having passed the brim no difficulty was experienced during extraction. The placenta was adherent and had to be removed. The patient being in a very exsanguine condition, was infused with saline solution, but with temporary benefit only; she gradually sank and died in the evening of the same day.

CRANIOTOMY (was performed once).

CASE.—M. A. D., aged twenty-eight; admitted 20th December, 1892. An unsuccessful attempt had been made by a practitioner outside to deliver with forceps. Cervix lacerated, profuse hæmorrhage. The pelvis was deformed. The true conjugate was $2\frac{1}{4}$ inches; no fœtal heart. The head was perforated, crushed by cephalotribe and delivered with cranioclast. Cervix plugged with iodoform gauze. Patient went out on the eighth day.

SYMPHYSIOTOMY.

This operation was performed three times, and, though one patient died, we hold it to be a good method of delivery in suitable cases.

CASE I.—J. M., aged forty-three; 10-para; admitted November 19th, 1893. Her first eight labours ended naturally, the ninth was a very difficult forceps delivery, the child being extracted dead. Since then she had suffered from rheumatism, and latterly had been unable to walk. The pelvis was flat, C. V. 7 cm. After ninety-one hours of labour an unsuccessful attempt was made with forceps. The symphysis pubis was divided and the head expressed manually. The sudden separation of the pubic bones caused a laceration of the urethra, which the Master was able to cure by a subsequent operation. Mother and child left the hospital well. Probably owing to the long rest in bed her rheumatism had so much improved that she could walk fairly well. There was good union of the bones.

CASE II.—E. M., aged twenty-two; admitted August 23rd, 1893; 5-para. Had been delivered on former occasions by craniotomy. Pelvis flat, C. V. 7.6 cm. Hand presented with head. After twenty-two hours labour cord prolapsed. An unsuccessful attempt having been made to apply the forceps, symphysiotomy was performed. The head immediately passed the brim and delivery was completed by forceps. The patient made an afebrile recovery, and left the hospital with her infant in good health.

CASE III.—E. M'G., aged twenty-six; 3-para. Flat pelvis, C. D. 8 cm. Her first pregnancy was terminated by perforation, the second by

induction of premature labour, and she was advised to have the same on this occasion, but did not come into hospital until full term. After many hours' labour the cord prolapsed; the symphysis was divided, and the child turned and extracted. There was an extensive laceration of the cervix and urethra, with violent hæmorrhage. The laceration was closed with sutures, and eight pints of saline solution infused. Temperature rose on fourth day, the wound assumed an unhealthy, sloughy appearance, and she died on the twelfth day.

All the infants survived.

ECLAMPSIA.

There were nine cases during the year. The mortality was—in mothers, two; in infants, five. The urine in every case was found highly albuminous. In no case was the number of fits so high as in previous years, partly due no doubt to the different treatment adopted. Chloroform was administered as sparingly as possible, and, in our later cases, Veit's treatment—hypodermic injection of morphin—was adopted with satisfactory results; though the number of cases is as yet too small to warrant us in being at all dogmatic.

In one case a secundipara of twenty-five, who had three fits before and eight after admission; delivered of twins, males, alive. The treatment adopted was large enemata of saline fluid, and spartein by the mouth. She made a good recovery.

CEREBRO-SPINAL MENINGITIS.

CASE.—M. M'C. Temperature on admission 100·2°, pulse 130. Intense pain in occiput; head drawn backwards. Hæmaturia. Aborted 28th of June. Evening of 30th, temperature 105°, pulse 160. Died at midnight. The case was seen by Dr. James Little, Consulting Physician to the Hospital, who confirmed the diagnosis.

ART. III.—*A Study of Obstinate Hiccough.* By W. LANGFORD SYMES, L.R.C.S.I., L.R.C.P.I.

"*Avia terrarum peragro loca, nullius ante
Trita solo.*"—*Lucretius.*

ATTEMPTS to establish the specific nature of a given disease, to contribute to its pathology, or to raise a definite pathological condition to the standard of recognition by authors on medicine, are at least attended with the advantage of promoting accurate

observation and exciting minute inquiry, and are rendered desirable in proportion to the uniformity, persistence, and suffering of the complaint, if not its fatal termination. That the subject of persistent and obstinate hiccough is worthy of such treatment is evident to anyone who has stood, probably powerless, by the side of an intractable case, and witnessed the agonies both of body and mind produced after days of an unceasing and painful spasm. The reproaches, therefore, of recent journalists—that it is thus deserving of more consideration at our hands—is not without serious foundation, for in the intricacies of a case of this most extraordinary neurosis, one may turn almost in vain to recent authorities for help and information. Precise records of its pathological bearing are amongst the rarest in our literature. All the light an investigator can find with which to more accurately examine so weird a malady, is summed up in the few examples cited here and there as mere curiosities or monstrosities of medicine. Hundreds of our best physicians live their life through without having met with an example of it, and rare must be the case in which a second or third instance is observed. One of the commonest of trivial personal discomforts—it is sometimes met with in the prostrate stages of certain diseases, where its import has ever been regarded as unfavourable, while its occurrence as the only manifestation of disease, the one single symptom—nay, the essential disease itself, is probably one of the rarest of pathological states. It is in this, its more serious connection, that the following remarks are chiefly intended to apply, and a clinical illustration of its existence in this form will be the best ground from which to view its pathology, prognosis, and treatment—a study alike pregnant with difficulty and interest. The following instance was recently under the writer's care, when its phenomena were observed with caution, and an endeavour was strenuously made to get at the root of this malady:—

CASE.—An old gentleman, aged eighty-seven, of a gouty disposition, whose organs were structurally sound, whose system, however, had been but seldom relieved by a regular attack of an acute nature, was subject to two ailments—one, occasional affections of the respiratory tract in winter—catarrh, bronchitis, or congestion of the lungs; the other, on very rare occasions, a true articular gout.

For six months previous to the following attack of hiccough he suffered from severe congestion of the lungs—now in one, now in the other—on one occasion numbness and tingling in the left arm and leg

from apparently some cerebral thrombosis, while the congestion of the lung gradually assumed a cirrhotic character, with dulness and exposure of the base of the heart over the third left rib, accompanied by profuse glutinous expectoration. Within the last month the congestion became clearer, being succeeded by an irritating, dry condition of the throat and upper air passages, with, at times, distressing aphonia.

This, however, gradually improved, and one evening during his convalescence he commenced to hiccough. After a time it became distressing, and he was given some sodii bicarbonas without relief; salt was tried, but had no effect, also sal volatile and ginger, but it continued all night unabated, while sipping water and holding the breath were of no use. Next morning, there being some considerable intestinal flatus, a purgative emulsion of castor-oil with turpentine was prescribed, and although free purgation resulted, no improvement took place. Ice was swallowed in lumps, and a mustard blister was applied to the epigastrium, followed, like other remedies, by a lull for a short time—the hiccough soon returning quite as violently. Raw whisky would sometimes check it suddenly, and give great relief, but for a time only. Chartreuse, vinegar, and eau melisse also checked it frequently, but only temporarily, and it again continued all night, even during sleep. Turpentine stupes, mustard footbaths, stimulating liniments to the diaphragm were equally unsuccessful. In view of its probably gouty origin doses of bicarbonate of potassium were frequently given in Vichy water, which was freely taken by itself. This seemed to have some effect, but on close observation it was the mechanical act of swallowing which was found to be influential, rather than that which was administered. The mere swallowing of saliva several times in succession was very useful, and still better was the patient being fed very quickly with spoonfuls of arrowroot, hardly allowing him time to hiccough. This, although unpleasant, became necessary to afford relief. Still it returned again and again. Gargling with soda and Vichy water sometimes stopped it, as did several other remedies—*e.g.*, charcoal, brandy, ice to the epigastrium, &c.; a spinal ice-bag to the cervical region having no effect. Thus it continued for eight days and nights almost incessantly.

Another most careful physical examination was made, and revealed but slight congestion of the right lung behind, and left in front, a faint systolic murmur over the mitral area, a congested and very dry condition of the pharynx, and a highly acid state of the urine, with a very minute trace of albumen. Having a slight cramp in the right toe it was frequently irritated with mustard in the hope of determining an attack of gout, but without avail. On again carefully considering the case, it was concluded that the hiccough probably arose from some oesophageal irritation to the branches of the vagus, associated with a catarrhal state of the cardiac orifice of the stomach, gouty in its nature, and that an

attack of articular gout would in all probability clear it up, and on this basis the following mixture was prescribed:—

R. Potassii bromidi	-	-	gr. 7
Potassii bicarbonatis	-	-	gr. 15
Potassii iodidi	-	-	gr. 3
Chloral hydrat	-	-	gr. 5

To be taken every sixth hour.

For the two following days it continued as before, apparently unabated even during sleep, although several simple remedies were useful in checking it for a time. However, on the evening of the tenth day it suddenly ceased, as it had often done before, but did not return. The mixture was continued, and after some days tincture of calumba was substituted for the chloral.

On calculating the rate of the hiccough, and the number of hours during which it lasted, I find that during ten days and nine nights it persisted for 148 hours, averaging about sixteen hours per diem at the rate of twenty-nine per minute, alternating with each respiration. During deep sleep, however, it sometimes occurred only every fourth breath.

This gives us a total of 257,520 spasms, the depressing and exhausting effect of which, on a debilitated constitution, it is difficult to describe.

Since the writer is not acquainted with any attempt to carefully consider this subject since the year 1833, when its pathology was a matter of doubt, it will at least aid further investigation if we endeavour to inquire into this "Quixotic" phenomenon in a somewhat definite and systematic manner. Such impressions as from the most careful clinical observation appear to be erroneously held will be corrected, and the subject placed as much as possible upon a surer and more accurate basis.

The words hiccough, hiccup or hickup, have doubtless been derived—in our language at least, and in French (*hoquet*)—from their resemblance to the familiar sound produced in the larynx, varying according to the period of respiration at which the spasm occurs, or whether or not the individual is speaking at the moment. In common parlance amongst the labouring class of our hospital patients, it is not unusual to hear it expressed as a "higgh," such a one being said to have had a "higgh" or to have "higghed" up! and thus, like many new words, has crept into the language from its gradually acquiring a more extended use and a more respectable patronage. In other languages, the Danish probably excepted, this derivation does not appear to have been made use of.

The most accurate definition of the affection may now be shortly

stated to be "a reflex spasm of the diaphragm, with subsequent closure of the glottis." The older views of a convulsion of the stomach, or that of M'Mahon—viz., a convulsive movement of the œsophagus drawing the stomach and diaphragm upwards, having been long discarded as erroneous.

Ætiology.—Probably few pathological conditions, so distinctive in their features, have such an array of exciting causes, and, without embarrassing the subject with unnecessary classifications, these might, with great convenience and some advantage, be reduced to somewhat more order than has hitherto been granted them. It is no rare occurrence to find an incidental and temporary hiccough arise in the course of some abdominal disease, but the majority of these pass quickly away after an evacuation of the bowels, eructation, or vomiting. Similarly those transient cases—originating in irritating kinds of food, stimulants or condiments, or from the opposite conditions of fasting or gluttony, need not be taken into account since they rarely become persistent—are easily traceable to their exciting causes and as easily removed. Equally obscure, however, are those prolonged and intractable instances which have been so long regarded as mere curiosities of medicine, whether they be periodic, annual, intermittent, "lasting for months," or sometimes even fatal; and if we carefully analyse many examples of this variety we will find that they readily fall into one or other of the following groups.

As contemporary literature contains some interesting records, sparsely intermingled, however, with much that is worthless, obsolete and misleading, a selection of some of the more instructive examples may be appended with advantage, under the several headings alluded to in the text, which they will thus more clearly illustrate.

1. *Inflammatory.*—Hiccough frequently arises during the course of severe visceral inflammations, amongst the most frequent of which may be mentioned gastritis, enteritis, peritonitis, hepatitis, hernia, or internal strangulations of the bowel. It is here evidently dependent upon the state of inflammation, tension, and vascularity of the coats of the bowel, and in many instances has persisted unabated until the fatal termination of the case. In the several forms of ileus, and especially internal strangulation from the bands of lymph or adherent coils of intestine, it is almost invariably present, and one of the worst symptoms. I have seen it commence on the ninth day of ileus preceding the onset of

stercoraceous vomit, and persist until the death of the patient on the twenty-first. Here, during each crisis of the symptoms, the patient will commence to hiccough; he then feels very uncomfortable, tosses his legs and arms about recklessly to seek relief, loud borborygmi are heard, and vomiting of fæcal matter sets in. This order of events will be frequently observed in severe cases, and found to recur day after day. On dissection, in this instance, three feet of the lower end of the ileum were found tightly constricted by a coil of tolerably healthy intestine, the free margin of which had become adherent so as to form a noose for the invaginated portion.

Similarly in fever, many instances will be found to fall under this heading, and to be dependent upon some localised inflammation of the gastro-intestinal tract; an instance of which is the following:—A man of forty-four years of age was admitted on the 5th day of enteric fever, with foul tongue, pains all over the body, weakness and debility. He lay in bed without high fever, but greatly prostrated until the 19th day, when tormina and diarrhœa set in severely. The next day his countenance was pale and anxious, and he commenced to hiccough. This continued on the 21st, 22nd, 23rd, 24th, 25th, 26th, and 27th days, on the night of which he died. It was accompanied by diarrhœa, debility, dry brown tongue, sordes and involuntary stools. Nothing relieved the spasm. On dissection the stomach was distended with flatus, its internal surface was of a dark mahogany colour, and coated with brownish-yellow mucus. The whole alimentary canal, as far as the sigmoid flexure of the colon, was quite livid, and its lining membrane covered with a dark mucus.

In another case of this description, where violent hiccough persisted in fever, leeches were applied to the epigastrium, and followed by a blister, while the bowels were kept freely open, the patient eventually recovering from the hiccough and fever.

Its existence and significance in this class of diseases has also been well described by Irish writers, who unanimously regard it as a very grave sign when accompanying the floccitatio or carphology of the malignant and prostrate stages of severe typhus and enteric fevers. It is here usually associated with tympanites and meteorism, though it has been seen by several observers independently of digestive trouble, and apparently due to lesions of the nervous system.

Thus it is recorded by Graves that a corpulent man, labouring under typhus, hiccoughed for several days more than eighteen

hours out of the twenty-four, and it was attributed by him to a congested state of the mucous membrane of the stomach and bowels, with flatulent distension.

Again, to instance a more local origin, it is related in a recent Indian contemporary journal that a retired officer of seventy-six years of age was attacked by obstinate hiccough after an acute seizure of congestion of the liver, lasting incessantly for seventy-two hours.

This was cured by a hypodermic injection of apomorphin, sufficient to produce vomiting, which act having previously checked it, led to its prescription.

Numerous other instances could be cited here as exemplifying its presence in connection with acute inflammatory action in the viscera, and to any physician of experience it must be familiar as an occasional symptom in these affections. The above examples, however, sufficiently elucidate this form of the neurosis.

2. *Irritative*.—It will be found that some cases of persistent hiccough originate in causes less severe and pronounced than those in the preceding class, and where the primary condition is one of mere irritation, rather than an inflamed state, of the implicated viscus. Although, however, the cause is here of a more temporary and removable character, the resulting spasm may be quite as obstinate and protracted as after the most serious internal inflammation: nay, more, it will be seen that some of the most incurable forms of the neurosis have occurred in subjects who seem otherwise free from any evidence of acute illness. Such, for instance, are distension from flatus, worms, dyspepsia in some of its varieties, and the more piercing irritants of dentition, or pressure on nerve trunks; and attacks which have persisted for weeks have resulted from some of these exciting influences, while a fatal case from the latter cause is on record. Thus, De Lens relates a case of M. Bobe Moreau's, where a patient suffering from a pharyngeal abscess was attacked by hiccough, apparently from pressure on, or implication of, the pneumogastric, and where the patient's death was caused by the exhaustion and depression consequent upon the spasm. Again, Dr. Arthur Wynne Foot, of Dublin, communicated the notes of a remarkable instance to the Medical Society of the Royal College of Physicians, in which a dyspeptic boy hiccoughed without intermission for twenty-six weeks, except during sleep, and averaging fourteen convulsions per minute. He had been prescribed for by eight different physicians, and declared that no

one was able to relieve him. Eventually he was cured by a prescription of Indian hemp, iodoform, and conium. It was here observed that the act of vomiting or the preparation for it deranged its rhythm—an interesting circumstance, to which we will presently allude. Similarly, Dr. Edward Liveing tells us of a case in which the hiccough, attacking a girl of twelve years of age, persisted for three years, even during sleep, but varying in its duration from ten minutes to an hour, and recurring three or four times in the day and night. As mentioned on page 20, some instances which arise in the later stages of fever are due more to the irritating distensions from flatus, to which the bowels are occasionally liable, than any definite inflammation of the intestinal tissues; and these cases without local pain, tenderness, symptomatic fever, vomiting, or melæna, probably are more frequently observed than those of the inflammatory type. Under this variety of the neurosis the dictum of John Hunter should be borne in mind, that he has seen it accompany local irritation after operations of various kinds.

3. *Specific.*—The most obscure and “Quixotic” example, however, of obstinate cases may be well described as “specific.” This they decidedly are, for, where exciting causes are difficult or impossible to find, where after a free evacuation of the bowels and removal of all states of tympanites or irritative digestive symptoms, the spasm frequently persists in rate, rhythm, and duration with undiminished intensity, no other definition will suffice. The evidences of local inflammation, or a pronounced neurotic diathesis, are here not found, while the system in which it occurs may be discovered to be almost saturated with some specific poison. This will be clearly manifest if the constitution in which it is met with be subjected to a careful scrutiny, and is frequently corroborated by the magic success of a wisely constructed specific treatment.

For instance, it has been found to persist for a considerable time after a fit of tertian ague, and was here observed by Lanzoni and Bartholin to alternate with convulsive attacks of sneezing. Again, M. Vidal has recorded a remarkable instance, due apparently to the specific influence of the malarial poison. A man was admitted under his care for some passing cerebral congestion, and five or six days later, after taking alcoholic liquor in some quantity, was seized with violent hiccough, which resisted all antispasmodic treatment. It was so loud as to be heard outside the hospital, and persisted at the rate of fifty-five per minute—a most extraordinary record—all the muscles of the trunk partici-

pating in the spasm. There was dyspnœa, short inspirations, tumid condition of the face, white tongue, and loathing all kinds of food, with a small pulse of eighty. After several remedies had failed, quinine, in "pretty full" doses, was given, and speedily put an end to the disorder, after a continuous duration of nineteen days. Although M. Widal concluded that the curative effects of the quinine was distinct evidence of its malarial origin, it is not impossible that a potent cause of this particular case was also to be found in his having too freely indulged in alcohol. This alone, however, would hardly keep up the spasm for such a length of time, though an important factor in its commencement.

Then, Dr. Edward Liveing has related a case—both intermittent and periodic—in the person of a man, past middle age, who hicoughed for twelve hours twice a week for four years.

Probably few more typical examples of the "specific" variety of hicough could be found than that cited in the beginning of this paper, and occurring in the gouty diathesis—that is, as one of the curious manifestations of the gouty poison taking the place, as it were, of the usual articular inflammation. Now, if we turn in this connection to authorities on diseases of the stomach and gout, as we approach its pathology more closely we find ourselves in a battle-field of conflicting opinions. From the time of Sydenham to the middle of the present century the expression "gout in the stomach" had been held to convey a genuine pathological condition, a true phase of the disease, actually met with in practical medicine. These were the days of the purest empiricism, when physiology—as we now know it—was in embryo, pathology consequently erroneous, while morbid anatomy was but little, if at all, investigated; the indices of medical works containing strange types of disease, while the physician or Barber-surgeon treated his patients on lines handed down from his forefathers. To this age succeeded that of more searching scientific investigators, amongst whom we find Brinton and Sir Thomas Watson declaiming against this affection as a fabrication, an impossibility, never seen in the dead house, and therefore not found in the hospital—combining to denounce it with the reproach of a "vulgar belly-ache taking rank by courtesy as 'gout in the stomach.'" More recently still we find Garrod, Fothergill, and Gairdner returning, by the aid of an enlightened physiology, to the belief of the Fathers, that the affection is once more possible—nay, clinically met with as a painful, serious, and even fatal variety, of which the case we have instanced seems

a peculiarly interesting example. In noticing hiccough as a symptom of gout in connection with vomiting and other gastric symptoms, Dr. Gairdner remarks :—" Very obstinate hiccough is a frequent attendant of this form of gout. I have seen it distress patients by day and night without any intermission for a great length of time. It often comes on after a sudden suppression of the discharge of urea and urates by the kidneys, and I regard it as an unequivocal sign of approaching death." This gloomy prognosis is also partially shared by Fothergill, who says :—" Certain it is persisting hiccough is always held to be of bad omen, though I have seen it pass away along with other grave symptoms." With reference to the state of the kidneys in the foregoing case, the urine deposited a good sediment of lithates, the only peculiarity being its intense acidity and minute quantity of albumen. No sudden diminution of the urates was observed.

4. *Neurotic.*—That a certain proportion of these cases have an origin purely "nervous" is beyond question, and the fourth variety of this curious malady exemplifies some of its most interesting phases. By the term "nervous" we would wish to be understood the fact, that the originating influence or stimulus is one primarily acting on or through the nervous system, without any preceding state of inflammation, irritation, or blood poison. Such have been described as presenting themselves in the course of hysteria, epilepsy, after fright, shock, myelitis, or sudden mental emotion. It is therefore easily understood that, in cases arising from this species of influence, the spasms are, if possible, more erratic, curious, and unaccountable, whether it be in their violent character, strange periodicity and recurrence, their unusual persistence, or yet their fatal termination. Thus Sir Thomas Watson mentions an instance in his lectures of an "hysterical affection of the diaphragm" of a very obstinate character, in one of his hospital patients—a girl who sat all day long in her bed uttering every eight or ten seconds a loud and most discordant hiccough. Dr. Foot, of Dublin, tells us of the case of a servant maid, whose bedroom was suddenly entered by the police in the execution of a search warrant—she was so frightened and hurt by this procedure, that she was immediately seized with an uncontrollable hiccough, ran away on foot to her home, some thirty miles distant, and died within a short time of the hiccough and shock. Again, Romberg relates another case where the spasm originated in a sudden fright. It was in a healthy girl of twenty-one years of age, and throughout the case convul-

sive attacks of laryngismus stridulus alternated with the hiccough. When we presently consider its pathology more carefully, it will not be difficult to comprehend how spasmodic seizures of this nature can accompany hiccough once its nervous mechanism is set in motion. These secondary convulsions may affect either the larynx, pharynx, or œsophagus. An instance of its complication with dysphagia, and the consequent aggravation of the resulting debility and prostration, is recorded by M. Bobe Moreau, in which the patient died of the neurosis. On *post-mortem* examination, however, no light was thrown on the cause of the spasm. This is the second case observed by this physician in which the death of the patient was clearly attributed to the exhausting effects of the hiccough. Amongst other instances are those alluded to by Dr. Good, of eight and twelve days' duration, where the phenomenon was continuous, and one of even three months' persistence; whilst some others of which he speaks were of the intermittent and periodic species.

It has, again, in this variety, been observed to complicate that peculiar neurotic condition known as "abdominal pulsation"—one instance being that of a lady of forty-eight years of age, with extensive pulsation below the diaphragm, vomiting, wasting, and slight loss of power over the left side, who was ill for upwards of nine months. Thus, coupled with the name "neurotic," we would set apart such instances as we have cited, where the stimulus acts primarily on the nervous system, and where we shall find, by such a division, their individual pathology and treatment will be more vividly elucidated.

Pathology.—The pathology of hiccough, for a long time a debated point, is now believed to be a reflex spasm of the diaphragm with simultaneous (?) closure of the glottis, having as afferent nerve the pneumogastric, and efferents the phrenic (?) and recurrent laryngeal. Now let it be granted that this is true. In this mechanism it would seem that the diaphragm either receives the first impression, as the phrenic apparently responds more quickly than the recurrent laryngeal, or, receiving a stronger impulse, overcomes that of the recurrent nerve; for we find that frequently the diaphragm contracts before the glottis is perfectly closed, a noise being thus produced in the larynx from some air leaking into the trachea. When, however, as occasionally happens, the glottis is securely shut, no noise accompanies it, and this, of necessity, by tending to produce a potential vacuum in the thorax—a most

unnatural condition—is a greater shock to the patient; and, therefore, we can understand how it is that a noiseless hiccough is the most distressing. We will revert to this in a moment. Whether it be in time, or strength, of current that the laryngeal is behind the phrenic, or whether the contraction of such a powerful muscle as the diaphragm overcomes that of the laryngeal muscles, even when acting in unison, whether it be the acts of inspiration or expiration which are influential in producing the noise in the semi-closed glottis, or whether, lastly, the impressions reach the diaphragm by a shorter route than by way of the cervical spine, to the entire exclusion of the phrenic nerve, are interesting points in physiology which appear open to debate. Each of these deserves a little attention. Now it is a clinical fact which I have observed time after time, and one of simple personal demonstration, that the diaphragm contracts before the laryngeal muscles. Therefore, if the phrenic be responsible for the spasm, it is at least a curious coincidence, and one foreign to the teaching of physiology, that the nervous impulse travelling along the vagus thus reaches the diaphragm before the larynx—a course full of complicated nervous connections, and of much greater length. Secondly, a muscle of such power as the diaphragm, contracting forcibly and irregularly, will, *cæteris paribus*, with a closed glottis, produce a potential vacuum in the thorax in proportion to the violence of the spasm, but that it in this way overcomes the laryngeal muscles and forces them to give way does not appear, for in such an event we should invariably have a noise produced in the larynx, which we find is not necessarily the case. It will be found from closely observing the act, that the noise is always present when the hiccough occurs during inspiration, but not if it take place in the pause or during expiration. The noise will, therefore, depend upon its relation to that particular period of respiration during which the glottis is closed. If the spasm occur during expiration no leakage will take place back into the trachea, for the outgoing column of air cannot be reversed in time, and hence no noise is produced. Similarly, during the pause, when the column of air is stationary, the glottis closes before a downward current thoroughly established, and the noise is of a very feeble character. If, however, the phenomenon take place in the course of an inspiration, when the air is descending, the immediate effect of the diaphragmatic spasm is to suddenly and violently increase its entrance, while the quickly narrowing glottis shuts off with a noise the intruding current of air.

Here the sound will be loudly produced, and, though in a certain slight measure dependent upon the intensity of the spasm, its violence will be more proportionally graduated by the volume and rate of the previous inspiratory current. Thus we find that a hiccough occurring during a strong inspiration will be productive of a loud noise, while a comparatively feeble sound accompanies that during a weak one; and this will take place with but little relation to the intensity of the action of the diaphragm. Similarly we see—however incomprehensible it may appear to the bystanders—that the louder and more intense the sound produced in the larynx, the less will be the distress to the patient; for it is the production of a potential vacuum in the thorax with a closed glottis, and without noise, that so distressingly harasses the frame.

Now, touching the nervous mechanism of this intricate subject, many interesting points present themselves.

We must not forget that gastric impressions acting on the vagus may also reach the diaphragm more directly through the connections of this nerve in a ganglion upon the vena cava, with the sympathetic and terminal filaments of the phrenic; and I find this view is supported by the testimony of Dr. Habershon, whose preparations in the museum of Guy's Hospital long since demonstrated it with precision. Formerly accepted as the *fons et origo mali*, the part played by the phrenic nerve in the production of hiccough has, I believe, been erroneously exaggerated. Romberg seems to have been the first to emphasise the fact that direct irritation of the phrenic will not produce it, basing his opinion on two cases recorded by Bright, in which organic disease, affecting the right phrenic nerve, produced other nervous disorders, but no hiccough. It seems, at the bedside, not affected at all; and watching the patient apparently supports this view. There is no disease in its course, and the cervical spine and respiratory centre are alike healthy. The breathing proceeding quietly as before, it performs its respiratory functions as regularly as it can; but it does so, as it were, with fear and trembling, for every now and then, at different and irregular intervals—it may be in the beginning, middle, or end of the pause, early or late in the inspiration, or in the first or second half of expiration, a violent convulsion of sympathetic and pneumogastric origin comes on, suddenly producing a spasm in the diaphragm, *over which the individual has no control*, and one's sympathies for the patient might be physiologically extended to his unfortunate phrenic nerve. Whether, therefore,

the phrenic does transmit this efferent impulse does not seem at all clear; and investigation is still wanting to decide by which route the current is transmitted. To my mind, from clinical observations alone, the sympathetic connections of the semilunar ganglion seem far more likely to convey the impressions than the phrenic, and for the following reasons:—

1. The diaphragm appears to contract before the laryngeal muscles, pointing to a closer and more direct communication with the gastric portion of the vagus than even the recurrent laryngeal.

2. The course of the phrenic nerve is healthy, and its respiratory function perfect.

3. The patient has no control over the spasm, while the phrenic is always subservient to one's will.

4. Remedies applied to the origin or course of the phrenic or to the cervical spine, such as blisters, ice-bags, compression, &c., &c., have no effect; while those directed to the diaphragm, stomach, and solar plexus, are generally curative.

5. The connection between the pneumogastric and phrenic by means of the third, fourth, and fifth cervical nerves are remote, and if this were the route taken the impression must travel more than double as fast on the phrenic than it does on the recurrent nerve, since it reaches the diaphragm before the larynx—conditions which are unphysiological.

6. The experiences of Romberg and Bright, which show that direct irritation of the phrenic will not produce hiccough.

7. The existence of a perfect reflex-loop between the stomach and diaphragm, which more directly answers the purpose, separate from the function of respiration and beyond control of the patient.

8. It being influenced by the acts of deglutition, or vomiting, to a greater degree than by any respiratory efforts.

During sleep its observation is a matter of the greatest interest. It is much less frequent. The impulses seem imperfectly transmitted or aborted, being only of sufficient strength to produce a true convulsion every second breath; while, finally, by the deepest sleep they are so weakened that the diaphragm may escape for four respirations the transmitted current from its afferent nerve.

As a typical example of a perfect reflex action, a true neurosis, there is, perhaps, not its equal in pathology.

The influence of the act of swallowing, which is undoubted in allaying it, is, I believe, due to the employment of the pneumogastric for this purpose as much as possible, in the mechanism of

which it is largely engaged, and thus detracting from its truly gastric function, rendering it, as it were, less sensitive to, and less capable of conveying with precision, the morbid impressions arising within the stomach. In this connection it is to be noticed, that in Dr. Foot's case, and also in that of the retired Indian officer, the act of vomiting had similarly a marked influence over its rhythm and duration.

Prognosis.—Indulging in precise speculations with reference to the prognosis of any particular case of persistent hiccough is, in the present state of our knowledge at least, a rather questionable procedure. A phenomenon so curious and erratic in its clinical characters can hardly be relied upon with certainty. It is not an affection which is sufficiently uniform even in its exciting causes, its accompanying diathesis, in the success of any one of its lines of treatment or its terminations, to give the physician any clue as to how a given instance will end or when it will disappear. It runs no definite course. It may subside suddenly and without apparent reason, just as it began, after a few days, or persist for weeks or even months at intervals. Each case must be judged entirely upon its own merits. The termination of the ailment will, however, whether favourable or otherwise, usually be found to depend upon the particular variety of the malady to which it belongs, and the degree of integrity of the system of the patient. The few facts we possess seem to warrant us in concluding that the "inflammatory" and "specific" varieties are, as a rule, of decidedly more serious import than those of the "irritating" or "neurotic" type.

Thus, in inflammation of the bowels, ileus, or hernia, it does not supervene until the disease has reached a considerably advanced stage, and is in these cases often the first of that serious train of symptoms which call for immediate operative interference.

In fever, when apparently the result of local inflammation in the intestines, it is of grave significance, seeing how readily such a condition may lead to perforation, and how thin the veil between life and death. If, however, severe nervous symptoms be absent, and there be no direct evidence of acute inflammation in the gastro-intestinal tract, it most frequently is caused by temporary flatus, distension, and intestinal irritation, conditions which, being not necessarily irremovable, do not lend it so serious a meaning.

When attacking the aged and debilitated, the gouty subject with imperfect kidneys, or the very highly nervous or neurotic

individual, it will also give well-founded cause of alarm; while in proportion as a local removable cause of the irritation can be "diagnosed" in an otherwise healthy individual, its significance will become less. Each case, however, must provide its own forebodings for good or ill, as our experience of this ailment is of such necessarily limited dimensions.

Treatment.—The treatment of obstinate hiccough will ever be a matter of extreme difficulty on account of the multiplicity of remedies. It might be advantageously divided into—(1) empirical; (2) antispasmodic; and (3) physiological.

Under the first heading would come almost every known drug or household remedy, of which the most efficacious I have found to be—very frequent acts of swallowing saliva, sips of liquids, or spoonfuls of arrowroot, so as to prolong the act of deglutition, and thus exhaust the pneumogastric nerve.

Raw whisky, vinegar, and "eau de melisse," are frequently magic, also hot brandy-punch, or a mustard blister over the epigastrium.

Numerous extraordinary and so-called "cures" might be here appended to this short list—from that of Cruveilhier, who half-drowned his cases with water poured down their throats, to Berend's remedy of leeching the feet—but it is the useless repetition of such empiricisms which has so long retarded the proper consideration of this subject, and they, therefore, are better omitted. The above-mentioned remedies are, however, extremely useful in checking it, if only for a time—during the course of a more truly scientific treatment—and I have frequently stopped the spasm with them so that the patient at least could sleep. In persistent cases, however, such measures should merely be looked upon as temporarily arresting or paralysing the gastric impressions which most likely will again manifest themselves with renewed vigour, as soon as their passing influence is exhausted.

Of antispasmodic remedies, chloral hydrate was used with success in the gouty example we have given, and might be replaced by such as nitrate of amyl, calabar bean, cocaine, hydrocyanic acid, atropin, morphin, nicotin, conium or succinum. The physiological treatment, however, will depend upon an accurate diagnosis of the conditions under which it occurs, of the constitution in which it is met with, and of the probable nature of the irritation to which the gastric or œsophageal branches of the vagus are subjected; and since it will ever be found better practice to treat disease, however

slight the ailment, upon physiological grounds rather than to blindly follow the crude dictates of empiricism, we would recommend the careful management of persistent cases upon such a plan, under the four prevailing types in which we have demonstrated its existence, and each of which must in turn become the basis of a distinct and specific treatment.

1. *Inflammatory*.—Knowing as we do, since the time of Hippocrates, that hiccough frequently occurs in the conditions of plethora and obesity, it is no idle remark to say that bleeding or leeching will be a very efficacious remedy in suitable cases where there is evidence of pronounced inflammation. Borrichius thus cured a most obstinate case of this nature in a full-blooded individual who was much relieved by the procedure, and, albeit, we are in the closing years of the nineteenth century, the prejudice and aversion to which this remedy has been subjected might, in some instances, be relaxed, to the material benefit of many subjects of such a diathesis. Leeches to the anus will greatly relieve the hæmorrhoidal veins in visceral inflammations, and the application of six or eight to the epigastrium has frequently been of use in such complications. Combined with such general antiphlogistics, one must be guided by the particular organ implicated, as to his choice of other remedies. Hot fomentations of poppyheads, or laudanum, or a linctus of belladonna with glycerine, covered by warm poultices, and the subsequent application of a blister, constitute the external remedies which are calculated to relieve such states.

The act of vomiting has suddenly checked instances of great persistence, and apomorphin injected hypodermically has similarly permanently relieved it.

The bowels should be freely relieved, when safe, by measures suitable to each individual case. Emollient injections, or a bland mixture of glycerine and castor oil given in warm milk, as administered in fevers, being the most expedient in acute inflammatory affections of the intestine.

When symptomatic fever runs high, the administration of tincture of aconite $m2$ in liquor ammoniæ acetatis every two hours, combined with some such antispasmodic as opium, morphin, cocain or belladonna, and the application of eight or twelve leeches, or an icebag, to the epigastrium or inflamed viscus, will most likely relieve the resulting hiccough. In that very rare disease, acute gastritis, sometimes met with in old men, or in the early stages of malignant disease, such a prescription as bismuth, carbonate of

magnesia and cocaïn with prussic acid, will relieve the gastric irritation. When, however, there is other evidence of acute mechanical obstruction of the bowels, when ileus is likely or imminent, it is the indication for immediate operative interference. It should not, however, here be waited for, since many fatal obstructions have never presented it.

2. *Irritative*.—When a case of persistent hiccough presents itself unaccompanied by any visceral inflammation, high fever, or other acute illness, a careful examination should be made of every organ to seek some lurking cause of the irritation. Though such strange affections as dentition, or pharyngeal abscess have produced it in this form, its source will most frequently be found in the digestive system. Particular attention should be paid to the conditions of health prior to the onset of the hiccough. There is always a definite and tangible origin in these cases. Something brought it on, and still keeps it up, and unless this factor can be recognised by the physician our treatment will be mainly empirical. In conditions of flatus and distension, when this appears the sole ailment, a free purge of castor-oil with turpentine will effectually clear the “*primæ viæ*,” and would be a suitable antecedent to sedative and carminative remedies. If the flatus continues, a pill of carbolic acid, nux vomica, and iodoform might be prescribed twice a day, with such a mixture as the following, every two or three hours, as recommended by Dr. T. W. Allen:—

R. Olei succini, ʒss.
Liquor potassæ, ʒj.
Tinct. camph. co., ʒiv.
Mist. acaciæ, ʒij.
Aquæ menth. pip. ad, ʒvj.

One-sixth part every two hours.

Two doses usually succeed. Still failing relief, a powder, as prescribed in the preceding class, of bismuth, magnesia, and cocaïn, should be taken in milk every third or fourth hour; or one composed of six grains of musk, with bicarbonate of soda and magnesia, which has been recently recorded as successful in a persistent case by Dr. Rattray,

3. *Specific*.—In no class of cases of this spasmodic affection will empirical remedies prove more futile than this. Useful, however, they frequently are, and will check it suddenly and repeatedly, but rarely permanently. Here a physiological basis for our treatment is, if possible, more necessary. One should minutely

examine the system with caution, and having become acquainted, as far as possible, with the functional capacity of each organ, prescribe rather for the general condition of the patient than pay any special attention to the hiccough. It is merely a symptom of some definite, though obscure, irritation, and we should find it. For the moment, however, discard it; and after your treatment has been well directed to the relief of any local irritation or constitutional diathesis, throw into your prescription some carefully selected sedative or antispasmodic.

Thus, in the obstinate gouty instance alluded to, the combination of bromide, iodide, and bicarbonate of potassium, with chloral, successfully removed it. Quinine has cured a so-called malarial variety; and other cachexiæ will be found equally amenable to a carefully constructed and systematic treatment.

4. *Neurotic*.—In this last variety of persistent hiccough the most varied remedies have been successful, though it has sometimes continued unrelieved until the death of the patient from exhaustion. Jaborandi and pilocarpine appear to have a specific influence over this form of the neurosis. They have frequently checked it permanently.

Nobel (*Centralblatt für klinische Medicin*, No. 32, 1892) refers to the marked benefit derived from the infusion of jaborandi administered to a man suffering from influenza. It produced some slight cyanosis, but appeared to have no further ill effect upon the heart. He declares it is still unknown to what ingredient its efficacy is due. Stiller, in the same journal, No. 42, states that he has frequently prescribed pilocarpine in doses of 10 minims of a 1 per cent. solution, three or four times a day, in hiccough of a nervous origin, and believes it is the best remedy known for this condition. It is, he says, unsuitable to attacks of the acute inflammatory type, and in hysterical instances is not so beneficial as in other forms. To pilocarpine he entirely attributes the specific influence of jaborandi. Dr. De Havilland Hall subsequently relates the success of one-tenth of a grain of pilocarpine injected hypodermically three times a day, when other remedies had failed. The hiccough, which had been unremitting for a fortnight, at once lessened, and soon ceased entirely.

The various forms of electricity should, in obstinate cases of this species, be tried. Laennec cured nervous instances with "magnetic" plates applied to the epigastrium and opposite region of the spine, and Dr. Henry Kennedy has related a cure by a three

weeks' course, in a persistent example of seven weeks. Apart from the more strictly local, nervous spasm, the general neurotic condition of these patients is frequently benefited by such treatment, and it should not be forgotten; while herewith should be combined as much of that useful adjunct, known as the "*Medicina Mentis*," as the operator can influentially employ. *Asafœtida*, combined with some of the carminatives or sedatives we have previously spoken of, has also been of great service. Ice to the epigastrium, blisters, and—recollecting in connection with the physiology of the pneumogastric nerve that cold shock has a marked influence over it, both in its pulmonary and gastric connections—in cases resulting from fright, shock, or sudden mental emotions, cold shower baths would be well calculated to arrest a spasm of this nature.

In this connection two interesting remedies remain to be noticed. They are—pressure on nerve trunks and hypnotism. It was recently recorded that a hiccough of an obstinate character supervened in the case of a man who struck his head against a wall with some violence. Several remedies failed to relieve him, and his surgeon efficiently arrested it by pressing for some minutes upon his supraorbital nerve, with sufficient force to give him great pain. This has also been tried by M. Leloir, who states (*Revue des Malad. de l'Enfant*—March, 1892) that he stopped hiccough, in a child of twelve, by digital pressure for three minutes on the phrenic nerve, between the two attachments of the sterno-mastoid. He says he has since used the method in a large number of cases, and always with success: in some for a few seconds, and others a few minutes. Now, can M. Leloir, with such exactitude, confine his pressure to one nerve in such a region as the neck? Can he prove to us that his digital compression did not equally affect the child's pneumogastric, or even the superior and inferior cardiac nerves, which are contiguous? We do not, however, doubt his cures, but the laying of so much stress upon the phrenic nerve in particular, in the pathology of these cases, seems to us, after a very careful and unprejudiced inquiry into the phenomenon, to be at least an assumption of facts which have not been proved.

The writer's experience of the phrenic nerve is, that it is misleading, that it has much less to do with the spasm than has been hitherto supposed, and that—granted even that it has been successful—pressure upon it will be scarcely more efficacious than upon others, even so remote as the supraorbital, the pneumogastric probably excepted. With regard to hypnotism, I believe it has

never yet been tried, but from the undoubted influence, which we can now no longer veil with scepticism, that has been demonstrated to lie in the hands and the minds of skilled "opérateurs," it might with all propriety be practised. Sleeplessness, pain, neuralgias, functional paralysis, hysterical crises, and writer's cramp, have alike succumbed to this psychological treatment, and if carried out with the success of Liebault or Bernheim of Nancy, of Luys at La Charité, or that of Voisin and Guinon in M. Charcot's clinique at the Salpêtrière, it constitutes a remedy exceedingly likely to remove, from a neurotic individual, so weird a remnant of fright or shock.

In concluding this interesting subject for the present, we would merely state that whatever may appear to the reader new or strange in the foregoing remarks has been entirely derived from a careful and original effort to fathom this mystery of medicine—this relic of quackery. From its study *de novo*, and at the bedside, such conclusions have been arrived at. Such light only has been gathered from others as subsequently appeared to illumine the views we have ourselves seen; and I firmly believe that if an independent observer, unbiassed by any preconceived notions of the ailment, again undertakes the study of this strange malady, his observations, if accurate, will similarly lead him step by step into the path we have trodden.

That these pages may help to elucidate a most distressing condition, an awful malady, and rescue it from the domain of quackery and empiricism, is the fervent wish of the writer; while if others, in their observations and treatment of similar seizures, be guided even a few steps, by such a spark, through the darkness and obscurity that still surround it, his pen will not have been taken up entirely in vain.

ART. IV.—*Note on Psoriasis Palmaris.* By H. S. PURDON, M.D.;
Physician, Belfast Skin Hospital.

PSORIASIS of the hands and soles of the feet is a very tedious as well as troublesome complaint, often resisting various plans of treatment. The disease is frequently, especially when the palm of only one hand or only one foot is attacked, due to syphilis. However, as far as my experience goes, the non-syphilitic forms of psoriasis palmaris are the most difficult to "cure." In the former variety, "Donovan's solution" seems the most suitable medicine, and which is useless in the non-syphilitic variety, especially if the nails are involved.

It is necessary in the treatment of psoriasis palmaris to combine both internal as well as local treatment, and one of the most useful combinations is that introduced many years ago by the late Dr. Neligan of Dublin—viz., iodine, gr. 4; iodide of potassium, gr. 16; Fowler's solution of arsenic, gt. 80; syrup of orange, 3 ii. The dose—a teaspoonful twice or thrice daily.

The thyroid tabloids in ordinary cases of psoriasis, with the exception of one case out of ten, have in my hands failed, some of the patients being made much worse by their use—that is, as far as the cutaneous eruption was concerned.

However, it is to the local treatment I wish to direct attention. The point is to exclude the air from diseased places, and keep our remedy constantly applied.

When the skin is much infiltrated I have found a preparation, that may be called an ethereal tincture of salicylic acid, useful not only in chronic infiltrated psoriasis palmaris, but also in corns and callosities. It is made with—rectified spirits of wine, 3 v.; sulphuric ether, 3 iii.; mix, then add gum mastich, gr. xxv.; when dissolved, further add one drachm of salicylic acid. This forms an excellent varnish, and is similar to the old-fashioned gutta-percha dissolved in chloroform. Moreover, in place of the salicylic acid, “goa powder” can be substituted in whatever proportion is thought necessary. If irritation is caused by its use, a cold starch poultice applied for a few hours allays the same. For washing the hands, in place of soap, I think quillaia bark beneficial, used with very hot water. The fluid extract can be employed mixed with a small quantity of coal tar (liq. carbonis detergens), and is thus similar to a French proprietary preparation called “coal-tar saporimé le bœuf.”

One of the worst cases of psoriasis, that was under treatment for months, cured himself with “scurvy grass” (*Cochlearia officinalis*), taken internally, whilst a poultice of same was applied to the hands. Its diuretic properties were likely beneficial, and the prolonged moisture, when locally applied to the hand, was useful in softening infiltrated skin.

Another herb is the “Galium aparine,” commonly called “robin run-the-hedge,” which has in various places a local reputation in cutaneous lesions. Surgeon-Major Orwin, in the *British Medical Journal*, some years since mentioned a case of psoriasis palmaris, “cured” in three weeks by using poultices of this herb, and also taken as an internal remedy. Various other drugs during twelve months had been used—such as arsenic, chrysophanic acid, and tar ointments, &c.—without any good results.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

On Preservation of Health in India. By Sir J. FAYRER, K.C.S.I.,
M.D., F.R.S.; President of Medical Board at the India Office.
London: Macmillan & Co. 1894. Pp. 51.

SIR JOSEPH FAYRER has reprinted a lecture delivered to the Cooper's Hill students, and if these young gentlemen are disposed to lead their Indian lives according to book, they cannot have a safer guide. This minuscular volume can easily be carried in a small pocket made for the purpose, and consulted before work and play, and meals, and sleep; and we trust that the caution given on p. 34 will prove unnecessary—"Over-anxiety about health must be avoided. A proper amount of precaution is right, but coddling and anticipating disease is much to be deprecated. Nothing is worse for a man in unhealthy places, or in times of epidemic disease, than a state of nervous expectancy and apprehension."

Salvation Army people and other missionaries will do well to bear in mind that "it is not expedient to imitate too closely the natives of the country in the character of their food. The stomach of the European will no more obtain from the diet of a Hindoo all that is necessary for nutrition than it could in other circumstances from the blubber that delights whilst it nourishes an Esquimo." We leave Weissman to deal with the dictum which follows, asserting the transmission of acquired faculties:—"Habit in these things becomes hereditary." The instructions for the extemporaneous management of snake-bite (p. 49) are excellent. Dr. Mueller's strychnia treatment receives tepid approval—a hypodermic injection of 10 to 15 drops of the liquor strychninæ "may be given." It seems to us unquestionable that Dr. Mueller's method has been most successful in the treatment of Australian snake-bites. We do not yet know how far the venom of Indian snakes resembles or differs from the Australian, and experience and experiment alone can tell us whether strychnia is antidotal in India. We do know that in India the symptoms following the bites of some thanato-

phidia differ remarkably from the effects of the bites of other species or genera, and we may presume that the antidotes may differ conformably.

Sir Joseph lays down that "it is very desirable that Indian life should commence, if possible, in the cold season." It is; and it is equally desirable that an official returning to India after leave to Europe on medical certificate should resume his work in the cold season. Why then was it decreed, while Sir Joseph Fayrer ruled in matters medical at the India Office, that an invalid should obtain no more than one year's furlough on medical certificate, extension being obtainable only by a journey—sometimes long and inconveniently expensive—to London, to appear before the India Office Board? An officer, under this order, whose health required him to leave India just before the hot season set in, instead of arriving, as is "desirable," in the cold season, was compelled to take up the climate where he had left it a year before.

Atlas of Clinical Medicine. By BYROM BRAMWELL, M.D., F.R.C.P. Edin., F.R.S., Edin.; Assistant-Physician to the Edinburgh Royal Infirmary, &c. Volume III., Part I. Edinburgh: T. & A. Constable, University Press. 1894. Folio. Pp. 48.

TRULY some men seem to have an insatiable appetite for downright hard literary work. In our own profession, the names of J. S. Billings, in the United States of America, and of B. W. Richardson and Byrom Bramwell, in our own country, may well serve as typical examples. Each of these three well-known men is the sole writer of a first-class medical periodical—the *Index Medicus*, the *Asclepiad*, and the *Atlas of Clinical Medicine* bear eloquent testimony to the indefatigable industry and powers of research of their several authors.

The first part of the third volume of the last-named work now lies before us. It opens with an address delivered before the Dermatological Society of Great Britain and Ireland, on May 31, 1894, on the Thyroid Treatment of Skin Diseases. During a visit to Edinburgh in the summer of 1893, we had an opportunity of seeing several cases of psoriasis which were under this treatment in Dr. Bramwell's wards in the Royal Infirmary, and, certainly the beneficial results were surprising in some instances. In others,

the treatment did not seem to produce any beneficial effect at all, or it was only partially successful. The elaborate paper in the present part of the *Atlas of Clinical Medicine* embodies full notes of twenty cases of psoriasis, personally treated by Dr. Bramwell with thyroid extract. The total result of his experience is to show that the preparation given by the mouth is of great value in a considerable proportion of cases of psoriasis.

The other skin affections subjected to the thyroid treatment by Dr. Bramwell were—lupus (5 cases), result—"considerable improvement;" ichthyosis (1 case), result—"temporary improvement;" exfoliative dermatitis (1 case), "marked improvement;" acute eczema (a few cases), "the remedy is perhaps more likely to do harm than good;" chronic eczema (2 cases), in one case "no benefit," in the other, "the most marked improvement;" pemphigus (1 case), result—"doubtful;" alopecia universalis (1 case), "beneficial" result.

This article is illustrated by a series of most striking plates reproduced from photographs. The improvement caused by the treatment is certainly astonishing as portrayed in these plates.

The second monograph in this fasciculus of the *Atlas* is on "Poliomyelitis anterior acuta." Two plates accompany it. The first of these shows the pathological appearances in five transverse sections of the spinal cord in cases of the disease. This plate also contains a drawing (Fig. 3) of a portion of the anterior horn of grey matter in a case of infantile paralysis, showing, by means of staining with osmic acid and farrant, the minute structure of the lesion highly magnified. The second plate gives illustrations of three cases of the disease. One of these is a drawing of severe acute anterior poliomyelitis in a very young child, whose lower extremities are completely paralysed, hanging like useless appendages, with the feet everted. The drawing is an exact copy of an instantaneous photograph which was taken while the child was struggling.

The third and last article is on a remarkable case of cancer of the breasts, spleen, and other organs and tissues (including the dura mater). A detailed report upon the microscopical condition of the different organs, by Mr. R. F. C. Leith, F.R.C.P. Edin. (Pathologist to the Royal Infirmary, Edinburgh, and Lecturer on Pathology in the Edinburgh School of Medicine), accompanies this unique case. The diffuse cancerous infiltration of the dura mater led to total loss of vision and paralysis of the ocular nerve by com-

pressing the nerves as they passed from the cranial cavity into the orbit.

The author's "remarks" on this very instructive case are thoughtful and extremely interesting, bearing as they do on the general question of the dissemination of cancerous infection throughout the system.

We are sorry to have to call attention to some literary blemishes, of perpetrating which we thought the author incapable. "Neither of these are good terms" (page 26), should, of course, read—"Neither of these is a good term." "Æsophagus" appears more than once for "œsophagus." "The liver is probably the commonest sight of secondary cancer" (page 47)—this is, no doubt, a printer's error.

Précis de Clinique Thérapeutique. Par le DR. A. F. PLICQUE, Médecin Adjoint à la Compagnie du Nord; Ancien Interne des Hôpitaux de Paris; Lauréat de la Faculté de Médecine; Lauréat des Hôpitaux. Paris: G. Steinheil, Editeur. 1894.

THE brief summary of the ætiology, history, and treatment of the many diseases of which the book treats calls for no extended notice.

As might be expected, diphtheria and typhoid fever occupy a considerable space of the first of the seven parts into which the volume is divided. The author, however, breaks no new ground, and contributes nothing fresh to the literature of medicine; nevertheless, a study of the views of French writers on medicine, especially therapeutics, tends to shake the ordinary practitioner out of his usual groove, to enlarge his views and give suggestions in therapeutics which occasionally are useful.

A Collection of the Published Writings of William W. Gull, Bart., M.D., F.R.C.P., Physician to Guy's Hospital. Edited and arranged by THEODORE DYKE ACLAND, M.D., Physician to St. Thomas's Hospital. Medical Papers. London: The New Sydenham Society. 1894. Pp. 600.

IN this volume are collected all the important papers on medical topics by the late Sir William Gull, written between the years 1847 and 1888. The theories put forward in many of these papers, especially the earlier ones, are no longer generally accepted;

nevertheless the writings are so full of accurate clinical observation that they will well repay perusal.

The most important papers are those on Abscess of the Brain, illustrated with notes of 76 cases; several papers on Paraplegia; a paper on a Cretinoid State in Adult Women (i.e., Myxœdema); papers on Arterio-capillary Fibrosis and the connection between Renal and Vascular Changes; and some interesting papers on Anæsthetics. It is curious to think that as lately as 1847 a case of chloroform anæsthesia was such a rarity in London as to call forth a descriptive letter in the *London Medical Gazette* from Sir W. Gull.

Index of Medicine: a Manual for the Use of Senior Students and Others. By SEYMOUR TAYLOR, M.D., M.R.C.P., Senior Assistant Physician to the West London Hospital. London: Smith, Elder, & Co. 1894. Pp. 794.

THIS work is intended to be a companion volume to Keetley's well-known "Index of Surgery." The alphabetical arrangement of that work has, however, been departed from, as Dr. Taylor holds—and, we think, rightly—that it is more convenient for students to have each group of diseases—as fevers, diseases of the respiratory organs—arranged together. This book, therefore, though called an "Index," is really a moderately short work on Practice of Medicine.

On the whole, this book is well and clearly written. Descriptions of symptoms, pathology, &c., though necessarily brief, are clear. With regard to the sections on treatment, we think that rather more precise directions as to size and frequency of dose might advantageously have been introduced; to the student such details are often necessary.

The section on the Nervous System is illustrated with a number of useful and instructive diagrams, which explain the anatomy of the nervous system; several tables have also been introduced into the work.

We regret to find that in many cases very little prominence is given to the part played by micro-organisms in the causation of disease—thus, in the account of Inflammation and Suppuration, except for a general reference, under the heading *Causation*, to microbes and poisons, they are not mentioned. We must also emphatically dissent from Dr. Taylor's statement that, as a rule,

the louder the cardiac murmur the greater is the organic change.

The printing and publishing leave nothing to be desired. Those who desire a work which will, within a short compass, contain the main facts of medicine, will, we believe, find Dr. Seymour Taylor's "Index" to thoroughly meet their wishes.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Vol. XV. Universidad-Vzoroff. Washington: Government Printing Office. 1894. Folio. Pp. 842.

The fifteenth volume of this immense work brings us down to the end of the entries under the letter "V." It is presumably the penultimate volume. It includes 6,152 author-titles, representing 3,312 volumes and 4,235 pamphlets. It also includes 8,596 subject-titles of separate books and pamphlets, and 35,667 titles of articles in periodicals.

In the fifteen volumes of the Index-Catalogue published up to date there are 163,605 author-titles, representing 80,806 volumes, and 139,891 pamphlets. There are also 160,245 subject-titles of separate books and pamphlets, as well as 497,832 titles of articles in periodicals.

Again we have to congratulate Dr. John S. Billings, Surgeon, U. S. Army, for the successful accomplishment of his gigantic and most useful undertaking.

Cloudland: a Study on the Structure and Characters of Clouds
By REV. W. CLEMENT LEY, M.A., F.R. Met. Soc. With numerous coloured Plates, Photographs, Charts and Diagrams. London: Edward Stanford. 1894. 8vo. Pp. 208.

Two thoughts—one gay, one grave—flit across our mind as we open the pages of this book. The first is, how thankful we should be that the word "Nephology" was discarded in favour of the more homely yet poetic term "Cloudland," as the title of the work. The second is the sad reflection that the health of the talented author, the Rev. W. Clement Ley, broke down before he had completed this work—the Preface is written and signed by "C. H. Ley," who incidentally refers to the author's "long illness" and "ill-health," A born student of meteorology, in all

its branches, Clement Ley's life-work lay in a profound study—extending over very many years—of clouds, their classification, the theories of their formation, and kindred subjects. These “inaccessible and intangible objects,” which have been correctly defined by Dickson as “portions of the atmosphere which, from natural causes, have become temporarily visible,” must of necessity attract the attention of every lover of nature, of the poet, and of the artist. Their endless variety, ever-changing form, gorgeous colouring, and at times stupendous size and awe-inspiring gloom—all appeal to the imagination of the observer; while the study of their origin calls forth his highest scientific powers.

Some one may object that such a book can scarcely claim recognition at the hands of a medical reviewer. We entertain no such narrow-minded view. Probably no other body of men have such unrivalled opportunities for studying and admiring the ever-changing glories of the sky as members of the medical profession, hundreds of whom spend many hours of every day in driving hither and thither through the open country. To them Clement Ley's profound studies of cloudland will come as a grateful and instructive foil to their graver pursuits. But, again, every thoughtful physician must have learned the far-reaching influence upon health—both mental and physical—exercised by weather, and particularly by the presence or absence of clouds.

We offer, then, no apology for drawing the attention of our readers to this book. Its wide scope and originality may be inferred from a mere enumeration of the topics discussed in the ten chapters of which it is made up. These are—the atmosphere; a classification, nomenclature, and description of clouds; their characters and contrasts—clouds of radiation, of “interfret,” of inversion, of inclination, theory of atmospheric currents; prevailing winds of the globe; cyclones and anticyclones and their cloud-forms; prevalent cloud-forms of the globe, and practical suggestions.

The author's classification of clouds will be found at pages 26 and 27. It includes seventeen primary forms and nine varieties. The nomenclature is novel and differs materially from the accepted terminologies of Abercromby and Hildebrandsson (Munich, 1891), and of Mannucci (Rome, 1894), both of which are based on the classical arrangement of cloud-forms proposed by Mr. Luke Howard, F.R.S., in his “*Essay on the Modifications of Clouds*,” first published in 1803, and re-issued as a third edition by Mr. John

Churchill, of London, in 1865. All these classifications had reference to the shape of the several forms of cloud; Clement Ley's classification is based on the different modes of their formation. Its two faults are its complexity and its prolixity.

One of the most attractive features in the work is the number and artistic excellence of the illustrations. In the first place, there are six coloured plates, reproduced from water-colour sketches made by the author some years ago. Then there is a series of eight beautiful photographs of cloud-effects taken by Mr. Arthur Clayden, which have been most skilfully reproduced. Again, there are four coloured charts showing, respectively, the mean barometrical pressure and prevailing winds of the globe, in both January and July, a cyclone over the North Atlantic on July 10, 1883, and a cyclone over the Arabian Sea on June 9, 1885. Lastly, ten diagrams illustrate cloud-formation and movements, and air-currents in a typical cyclone.

The "setting" of the work is beyond all praise and reflects the greatest credit on the publisher, Mr. Edward Stanford, of 26 and 27 Cockspur-street, Charing-cross, London, S.W.

The Nurseries of Cholera: its Diffusion and Extinction. An Address delivered before the Section of Public Medicine of the British Medical Association at Newcastle, August, 1893; with an Appendix of the International Cholera Convention of Paris, 1894, and on the Mecca Pilgrimage. By ERNEST HART, D.C.L.; Chairman of the Parliamentary Bills Committee of the British Medical Association; Editor of the *British Medical Journal*. With five full-page Illustrations. London: Smith, Elder & Co. 1894. 8vo. Pp. 35.

WE are glad to see a reprint of Dr. Hart's address, and of his subsequent papers on the subject of cholera. It will be read with interest and profit even by Indian officers, some few of whom—we speak with diffidence—may (perhaps) know nearly as much about cholera as the author, though this would not be inferred from the alone-I-did-it style of these pages. We can readily pardon Dr. Hart's harmless delusion—that no one discovered or preached that cholera was communicable, and mainly communicated, by drinking-water "until that I, Deborah, arose, I arose a mother in Israel." He has done good work in advocating and propagating correct views upon the ætiology of cholera

epidemics, and the true methods of prevention. He slays the slain in wasting space on arguing against what Dr. Cuninghame would have called his opinions on the communication of the disease; but his mistake is natural. That officer's position as sanitary adviser to the Government of India gave a factitious importance to his fancies, which was productive of some transient mischief, and which led to some pardonable misapprehension as to the views of Indian sanitary authorities. None of these, so far as we know, accepted Dr. Cuninghame's doctrines—except at the point of the bayonet, which his official position placed in his hands.

The illustrations of this pamphlet are graphic, and add considerably to the interest of the reprint.

Deaf-Mutism. By HOLGER MYGIND, M.D. Copenhagen. London: F. J. REBMAN. 1894. Crown 8vo.

THE author's aim was the production of an exhaustive and systematically arranged work on deaf-mutism. He has been fairly successful. Commencing with the earliest Greek writers he has brought together a goodly collection of old world literature; but he seems to have relaxed his efforts when he came to the Dark Ages—in which Dark Ages, strangely enough, many of the blessings of modern civilisation had their genesis. We find no mention of John de Beverley, who died in 741, who in 704 founded a college for the training in oral instruction of deaf mutes. Yet from that college went forth knowledge of what could be done for these apparently helpless creatures that brought forth "*Reduction de las letras, y arte para enseñar a hablar los mudos*" of Juan Pablo Bonet, nearly 1,000 years later; neither do we find mention of Rodolphus Agricola, the famous pupil of Thomas à Kempis.

Fabricius, the tutor of the great Harvey, in 1624 published his "*De Locutione*," and the Earl of Verulam published his pamphlet on "*The Motions of the Tongue, Lips, Throat, and Palate in Speaking*" about the same time—both authors are ignored.

Passing from the historical to the scientific portion of the book we find the author at his best. He defines deaf-mutism as being the state in "which the hearing is positively *nil*, and in which there is no power of speech, unless it be acquired by a special method of instruction." It is to be regretted that he does not consider with any fulness the endemic form of deaf-mutism common

in Switzerland, but confined his work to the study of congenital deafness and that resulting from acquired deafness.

What we have said will suffice to give the reader some idea of the scope and aim of the book, and we may only add that the account of pathological changes giving rise to deafness is a clear though necessarily short account, but withal well worth reading.

Vade-Mecum du Praticien: Diagnostic et Traitement des Maladies Internes. Par le DR. FERNAND ROUX, Mention Honorable de l'Institut Recompense de l'Académie (Prix Desportes); Lauréat de la Société Médico-Pratique et de la Société de Médecine. Paris: G. Steinheil, Editeur. 1894.

IN a small octavo volume of 391 pages the author has succeeded in giving a clear, brief notice of the diseases which commonly come under the notice of the physician. The arrangement is alphabetical. Numerous formulæ are given, many of which might be studied with advantage by British physicians—for instance, we might learn to use aconite more freely in diseases of childhood, and familiarise ourselves with the flavouring agents which French physicians use in such variety. The book is written for students, and the author makes no claim to originality.

Gout, and its Relations to Diseases of the Liver and Kidneys. By ROBSON ROOSE, M.D., LL.D., F.C.S.; Fellow of the Royal College of Physicians in Edinburgh; Member of the Royal College of Surgeons of England; Author of "Wear and Tear of London Life," "Nerve Prostration," "Infection and Disinfection." Seventh Edition. London: H. K. Lewis. 1894.

WHEN a medical book has reached a seventh edition it has proven its general acceptance by the profession. It is, however, apt to fall behind the ever-advancing wave of scientific progress unless the author himself keeps abreast of the times, and by careful revision keeps the book thoroughly written up to the most advanced line of scientific thought on the subject of which it treats.

Dr. Roose is not only abreast of the times, but he has subjected the book to a thorough revision since the appearance of the last edition; and he has discussed in fuller detail various manifestations of gout which had been previously dealt with in a few sentences.

Visceral and cutaneous affections, as irregular manifestations of gout, and the hepatic and renal disorders connected with the disease, are treated very fully, and are particularly valuable contributions to the subject; gout, like syphilis, assuming so many forms and giving rise to so many diverse troubles, that the value of a good account of its mimicry of other forms of disease can hardly be over-estimated.

Chapter VII. deals with the therapeutics of gout—dietetic and medicinal.

Exercise, baths, habit of life, and drugs are reviewed by the author, who gives a large number of formulæ which from experience he has found of benefit. Piperazine and all the other new drugs recommended for the gouty are discussed in this excellent monograph.

Diseases of the Nose and Throat. By F. DE HAVILLAND HALL, M.D., F.R.C.P. Lond.; Physician to Out-patients, and in charge of the Throat Department at the Westminster Hospital; Joint Lecturer on the Principles and Practice of Medicine at the Westminster Hospital Medical School. With two coloured Plates and fifty-nine Illustrations. London: H. K. Lewis. 1894.

THIS volume is one of the excellent manuals published by the Messrs. Lewis, and it may be said to have had its genesis in the friendship of the author and the editor of the *Centralblatt für Laryngologie und Rhinologie*, of which friendship the author tells in the preface. The excuse for the appearance of the book is that the author knows "of no work of moderate size which gives anything like a complete account of these diseases." There is, however, no occasion for the excuse, and as far as the present book goes the author leaves the same ground for excuse which he found. A complete account of the diseases of the nose and throat cannot be given in few words. The author has, however, produced a good, readable, intelligible book, well suited for general practitioners and students going in for examination. The volume is divided into three almost equal parts.

Part I. deals with diseases of the nose, accessory sinuses, and naso-pharynx, and in 168 pages the subject is so tersely and clearly dealt with that in this section the work may be said to be complete.

Part II.—Diseases of the pharynx, though excellently written,

does not treat of pharyngitis with sufficient fulness. Pharyngitis and tonsillitis are the more common throat affections, and we think they are deserving of more attention than the author has given them.

Part III.—Diseases of the larynx is well done—full of practical hints—and we are glad to see so much space given to the varieties of spasm, which in children is one of the most alarming conditions which afflict childhood. An appendix of useful formulæ complete this useful and reliable book.

Inebriety or Narcomania: Its Ætiology, Pathology, Treatment, and Jurisprudence. By NORMAN KERR, M.D., F.L.S.; Fellow of the Medical Society of London; President of the Society for the Study of Inebriety; Chairman, British Medical Association Inebriates' Legislation Committee; Consulting Physician, Dalrymple Home for the Treatment of Inebriety; Vice-President, International Congress of Medical Jurisprudence; Corresponding Member, Medico-Legal Society of New York; Corresponding Secretary, American Association for the Study and Cure of Inebriety. Third Edition. London: H. K. Lewis. 1894.

DR. NORMAN KERR is a well-known advocate of teetotalism, and amongst the many who urge pledges and legal restriction against the consumption of alcohol he is one of the ablest. The present work has reached its third edition within a comparatively short time, and now courts public favour in a greatly enlarged and improved form.

With much of what the author puts forward we agree; like him we desire that drunkenness should be an unknown evil; that men should become sober, cleanly, decent; that drunkenness unfits a man for work, physical or mental; and that the misery it engenders spreads from the individual to all those within his family circle; that drunkenness is too often the parent of crime; that delirium tremens, epilepsy, paralysis, and other diseases follow in its track; and that Dr. N. Kerr is a firm believer in the efficiency of the methods he recommends to the profession and the public.

The book, besides its graphic account of the horrors of drink, tells of the evils of opium, ether, chloroform, and antipyrin.

As a storehouse of facts on all these questions the book is valuable, and for the summarised account it gives on home

and foreign legislation on alcoholism, and on all these topics we recommend the book as a valuable work of reference. But we object, strongly object, to the principle of the book, to some of its conclusions, and to the disproportionate prominence given to facts in reference to the injurious effects of alcohol.

We object to grandmotherly legislation and coercion. The liberty of the subject is sufficiently restricted already, and the patience with which millions of law-respecting citizens tolerate the curtailment of their personal liberty lest a weak brother should offend is a marvellous testimony to our inborn respect for law.

Restrictions and pledges cannot create an Utopia. Let us, for example, take the author's favourite illustration—the stamping out of ether-drinking in the County Tyrone. What are the facts of the case? Father Mathew began in 1845 his great crusade against drunkenness; and in town after town collected, as all popular preachers do, large audiences. To his appeal to take the teetotal pledge the more emotional of his hearers first respond, and soon the whole multitude, overcome by a tide of emotion, follow suit; and thus, from Cork to Belfast, Ireland is made a sober kingdom. But the peasant took neither to tea, coffee, nor bovril. At fairs, wakes, and dances he found the so-called cordials, consisting of raw-corn whisky and flavoured syrup in the south; and, in the thrifty north, methylated ether, was his panacea for trouble.

Thus we find the effect of the pledge was cordial-drinking—of raw whisky and flavouring ethers in the south, and methylated ether in the north—instead of the comparatively healthy whisky and water of the past.

Ether comes to be scheduled amongst poisons, and the consumption falls off 90 per cent. Dr. Kerr is correspondingly happy; we do not begrudge him the happiness, but we just ask him, What is there to prevent the ether-drinker turning his attention to spiritus ætheris nitrosi? And if that be scheduled, where is the scheduling to stop? Are we to christen publicans “drug-gists?” And are we, as in Maine, U.S.A., to call on our pharmaceutical chemist for a “mint pick-me-up” instead of going to our hotel or public-house?

It is usual to hear the other side in all discussions and all tribunals, except those of Torquemada and Teetotalism. Even in the darkness of the Middle Ages the devil's advocate was

allowed a hearing; but for alcohol the teetotaler is deaf to all that might diminish its deviltry. Monomaniacal on his fad, he would, were it possible, efface Cana of Galilee from the sacred page and forbid Timothy the wine a Paul prescribed.

Reform never came from faddists. Their exaggerations disgust the unbiassed. The work of making Great Britain and Ireland a sober nation is the work of the broad-minded common-sense people in our midst.

When the battle of life is made less trying by the exercise of Christian charity; when the hovels of the poor are changed into habitations worthy to be the dwelling-places of human beings; when man learns that humanity is a brotherhood and that truth and honour are more dear than social distinction and wealth; and when the pessimism of teetotal faddists is forgotten—then, and then only, will man cease to crave for “wine that maketh glad the heart of man;” for then sorrow and trouble shall have ceased to afflict.

Bulletin of the American Academy of Medicine. No. 23. October, 1894. *PHILADELPHIA, PENNSYLVANIA.*

THE American Academy of Medicine was founded for the promotion of medical education, but it has enlarged its scope to the entire field of “medical sociology.” Its organ, the *Bulletin*, is published twice a month, and the profits from the publication appear to be the only, but sufficient, source of revenue, no subscription to the Academy itself being exacted. It is a peripatetic institution. The nineteenth annual meeting was held at Jefferson, New Hampshire, in August last, and next year’s gathering is fixed for Baltimore, in May. This number of the *Bulletin*, for which we are indebted to the courtesy of the Secretary, contains the Transactions of the meeting.

There are thirteen papers in the number, discussing subjects which are described on the title-page as “some problems pertaining to the medico-social relations of the Dependents, Defectives, and Delinquents.” The valedictory Address of the outgoing President, Dr. George M. Gould, of Philadelphia, is devoted to a most important subject—“Charity Organisation and Medicine”—a subject of universal and pressing interest. The Academy, on the recommendation of its Council, passed the following resolution:—

"Whereas, the abuse of medical charities, to which the attention of the American Academy has been so forcibly drawn by the President in his opening Address, is an evil to which the medical profession should not close its eyes; therefore, *Resolved*—that the participation of physicians in the movement towards charity organisation is earnestly urged as the most efficient means of limiting the indiscriminate and injurious gratuitous bestowment of medical services."

No city stands in such sore need of charity organisation as our own. In none is more money wasted in indiscriminate almsgiving. In none do "charities" more grievously overlap. In none is gratuitous medical relief more lavishly bestowed on undeserving objects. In none is it more desirable that the people in general, and our profession in particular, should take to heart the cautions and wise advice given by Dr. Gould in this admirable Address. We regret that our space admits only one or two extracts:—

"Mendicity is mendacity. The crimes of tramps and street-beggars are only surpassed by the crimes of those that give to them. Mendicancy in all its forms and masks is not the result of poverty, but is the cause of poverty. All indiscriminate almsgiving, all wholesale crowd-relief, or collective-relief of want or suffering, is either a forged, to-be-protested promise-to-pay note of sympathy, or it is the payment of wages for something done. Nine times out of ten it is selfish charity, or self-flattery. Foolish people love to flatter themselves that they are kind-hearted. Benevolence is fashionable, and fashionable people—are fashionable! One of the most debauching and disgusting forms of selfishness is that of indiscriminate philanthropy. . . . Almsgiving, on the other hand, is wages; by giving to beggars and tramps we pay for the continuance and increase of beggary and trampism; by Sunday breakfasts we increase hunger on Sunday mornings . . . by indiscriminate out-patient relief we stimulate the production of disease, hire patients to experiment on, increase our reputation or that of our hospital, and at one fine stroke pauperise both the profession and the populace."

Our professional interests justify another quotation:—

"The London *Lancet* has lately been weeping very profusely over the failure of the public to respond with sufficient liberality in financial support of the hospitals of London. Curiously enough, the epiphora seems to be caused by a respectably-sized beam in its own professional eye. To justify the tears it cites the number of cases treated in the 181 London hospitals during 1893. . . . Let us leave out of consideration the in-patients (over 100,000) and the accident cases (243,801), and fix our attention for a moment upon the (nearly) four million visits of out-

patients. It strikes us that if any hysterics are justified in reference to this appalling figure it would be the hysterics of indignation. Can any conscientious physician, can any sane man, believe that this number of people have been adequately considered, careful diagnoses made, and discriminating scientific treatment instituted? Can he believe that a vast proportion of these patients were unable to pay some fee for the service rendered? The whole affair begins to become ludicrous. The sentimental grimace of the charity tragedy is plainly broadening into the guffaw of opera bouffe. The cloven foot of selfishness on the part of those lucky or powerful enough to get in charge of these hospitals, is all too plainly evident to allow us to be much grieved at the moans and wailings of the melodramatic artist."

One of the most important papers in this collection is Dr. Leffmann's, of Philadelphia, on the Relations of Food Adulteration to the Dependent Classes. He mentions one remarkable instance of pernicious adulteration which occurred a few years ago in Philadelphia. Nearly 100 cases of obscure illness, often fatal, many cases being attended by convulsions, were diagnosticated as the result of lead-poisoning, and traced to two bakers who "got in the habit" of substituting chrome yellow for eggs in their manufactures. The author has a poor opinion of oleomargarine; indeed, he goes so far as to call it "one of the humbugs of the century." It is not cheap; "it brings butter prices at all points at which it meets the consumer." It is not pure. "At first made from selected fats, and coloured only with annatto and turmeric, which have long been used in the dairy, it is now coloured with coal-tar products, concerning the wholesomeness of which we are ignorant; and, according to recent analysis, samples have been found to contain paraffin, an entirely indigestible article." In the discussion which followed the reading of the paper some strange facts were elicited. Dr. Gould stated that oleomargarine being substituted for butter in the dietary of a blind asylum, without the knowledge of the inmates, was partially rejected by the boys after a few weeks. They said it was good, but they did not care to eat so much of it. Dr. Didama, of Syracuse (N. Y.), reported that "a farmers' club at Syracuse debated the question of seeking legislation to prevent the manufacture of oleomargarine. It was voted down, the farmers themselves had to buy oleomargarine in order to meet the demand upon them for butter." Dr. Hopkins, of Brooklyn, is responsible for the extra-

ordinary statement that "a firm at Canassie, Long Island, had, a few years ago, a contract to supply the British Army with butter. It was said to have been made from old bones, and the odour from the factory was convincing to the passer-by that the statement was correct."

Let us conclude with a poetical quotation, too frivolous for the American Academy of Medicine, though not disdained by the American Public Health Association. Lieutenant-Governor Chapman concluded his Address of welcome to the Association, meeting at Montreal in September last, with these verses:—

- "Placid I am, content, serene,
I take my slab of gypsum bread,
And chunks of oleomargarine
Upon its tasteless sides I spread.
- "The egg I eat was never laid
By any cackling, feathered hen;
But from the Lord knows what 'tis made
In Newark by unfeathered man.
- "I wash my simple breakfast down
With fragrant chicory so cheap
Or with the best black tea in town—
Dried willow leaves—I calmly steep.
- "But if from man's vile arts I flee
And drink pure water from the pump,
I gulp down infusoriæ,
And hideous rotatoriæ,
And wriggling polygastricæ,
And slimy diatomacææ,
And hard-shelled orphryocercinæ,
And double-barrelled kolpodæ,
Non-loricated ambrosilæ,
And various animalculæ;
Of middle, high and low degree;
For nature just beats all creation
In multiplied adulteration."

ANTIMALARIC ACTION OF METHYL-BLUE.

Drs. MARSHALL and GEE (*Ind. Med. Gaz.*) recommend methyl-blue for intermittent fevers in cases where quinine and antifebrin have failed. Given in 0.12 gramme doses in pills with extract of benbane, and repeated every two hours until not more than five pills are taken. The temperature gradually falls to normal. The pills have not to be continued beyond the third day.—*Therap. Gaz.* and *Les Nouveaux Remèdes*, No. 11.

PART III.

SPECIAL REPORTS.

REPORT ON PRACTICE OF MEDICINE.

By HENRY T. BEWLEY, M.D. Univ. Dubl.; F.R.C.P.I.;
Assistant Physician to the Adelaide Hospital; and Lecturer
on Medical Jurisprudence in Trinity College, Dublin.

- I. THE ANTITOXIN TREATMENT OF DIPHTHERIA.
- II. MORNING DIARRHŒA.
- III. THE TREATMENT OF NOCTURNAL ENURESIS.
- IV. THE DRUG TREATMENT OF PHTHISIS.
- V. CREASOTE IN TUBERCULOSIS.
- VI. LÆVULOSE IN DIABETES MELLITUS.
- VII. SCARLATINA-LIKE RASHES IN CHILDREN.
- VIII. THE ANOMALIES AND COMPLICATIONS OF CHICKEN-POX.
- IX. THE TREATMENT OF GONORRHOËAL RHEUMATISM.
- X. THE MANAGEMENT OF FEVERS, AND PARTICULARLY OF
TYPHOID FEVER.
- XI. ADHERENT PERICARDIUM IN CHILDREN.
- XII. BICHROMATE OF POTASH IN DISEASES OF THE STOMACH.
- XIII. THE HEART IN CHOREA MINOR.
- XIV. THE DIURETIC ACTION OF CALOMEL IN BRIGHT'S DISEASE.
- XV. A MODE OF MAKING PERMANENT PREPARATIONS OF URINARY
TUBE-CASTS.

I. THE ANTITOXIN TREATMENT OF DIPHTHERIA.

THE most important advance in medicine during the past year has, undoubtedly, been the serum-treatment of diphtheria. The literature of the subject has already become very extensive; reports on recent cases are being published in nearly every copy of the medical journals, and it is quite impossible to attempt to refer to all that has been published on the subject. We will endeavour to call attention to several articles which give a fair sketch of the subject.

Dr. Sheridan Delépine has written an account of the experi-

mental evidence on which the method is based, and the pathological considerations which have guided bacteriologists through their work. In 1889 Roux, speaking in London on behalf of Pasteur, said—"The immunity which we could only give by the introduction of a living virus into the body, we can now effect by the introduction of a chemical substance into the tissues, and these vaccine substances are exactly those which we have observed in infectious diseases as being the cause of death. In large quantities they kill, in small they confer immunity." In 1890 Behring and Kitasato (*Deutsche med. Wochenschrift*, Dec. 4, 1890) announced that the blood of animals which had been rendered refractory to tetanus acquired the power of destroying the toxins of tetanus both in vitro and after injection into the bodies of other animals. This property of the blood was not impaired by the removal of the blood corpuscles, and it was therefore inferred that the substance which gave to the blood its antitoxic properties was contained in the blood-serum.

In order to obtain antitoxic serum it is necessary to immunise the animals which are to supply the serum with active toxin. This toxin is obtained by cultivating the diphtheria bacillus for from one to three months, according to circumstances; the culture is filtered through a Chamberland bougie, and the filtrate which contains the toxin, but no microbe, is kept in the dark in well-closed vessels.

The next step is to immunise the animal which is to provide the antitoxic serum. This can be done with the pure diphtheritic toxin, but the process is difficult on account of the very poisonous properties of this toxin. Roux, therefore, uses iodised toxin for the first injections, iodine having the power of lessening the virulence of the poison. The animal receives at intervals injections of the toxin, the dose being gradually increased till the animal is able to bear amounts of toxin which under ordinary circumstances would be surely fatal.

Many kinds of animals may be used; Roux prefers the horse, the serum of which he has found perfectly harmless to man, because it is an animal which can bear large doses of pure toxin, can be immunised rapidly, and yields large quantities of very antitoxic serum. The blood is obtained from the jugular vein; this vessel can be tapped with a trochar many times without losing its elasticity. From the blood thus drawn a perfectly clear serum is prepared.

The action of the anti-diphtheritic serum is shown by the following experiments:—

1. If after injecting serum vulvar diphtheria is produced in a guinea-pig, the local lesions soon begin to subside, and the false membranes separate on the second day. In control animals at the same date the local lesions are progressing and intense, and subsequently such unprotected animals die.

2. If twelve or even twenty-four hours after inoculation with diphtheria, a guinea-pig be injected with a quantity of serum equal to from $\frac{1}{1000}$ th to $\frac{1}{10000}$ th of the weight of the animal, he recovers, the membranes beginning to separate on the second day.

3. In the case of experimental tracheal diphtheria in the rabbit the same results are obtained, provided the interval between the beginning of the disease and the injection be not too great, and the quantity of serum used be sufficient.

4. When the serum is injected before the toxin, the animals are found to be refractory if the dose of serum be proportional to that of toxin. A dose of serum equal to $\frac{1}{10000}$ th of the animal's weight protects a guinea-pig against a dose of toxin capable of killing in five days, and twice this quantity of serum protects it against a dose of toxin capable of killing in two days.

When, however, there is a mixed infection—i.e., when there are streptococci injected as well as diphtheritic bacilli—it is more difficult to arrest the disease.

The immunity obtained by the injection of a toxin differs markedly from that due to the serum. In the first case immunity is slowly acquired, and that not without risk to the vaccinated animal, but when once acquired it lasts a long time. In the second case immunity is obtained rapidly, almost immediately; it is also lost rapidly. In the case of diphtheria it is lost in some weeks.

The antitoxic serum can be injected in large doses without producing any toxic effect, beside the trifling rash sometimes produced by the serum itself independently of the antitoxin.

The mode of action of antitoxins has been found not quite so simple as it seemed at first. The antitoxins do not neutralise the toxins by a kind of combination with them, they probably act indirectly on each other through the intermediation of the cells of the organism, on which they would both be capable of acting.

Antitoxic serum can be obtained in the case of tetanus and snake-poison, but is absent from the serum in the case of vaccinated

animals in the case of cholera, pneumonia, and typhoid fever, although in these diseases the serum protects against the microbe, just as in diphtheria. It is probable that the serum acts by stimulating the cells which have to fight against the microbes.—*Medical Chronicle*, Oct., 1894.

Dr. Roux, of Paris, made a most important communication on the subject before the Congress of Hygiene and Demography at Buda-Pesth. Since 1891 he has studied the effects of antitoxin serum on animals. On Feb. 1st, 1894, he commenced to treat children affected with diphtheria at the Hôpital des Enfants Malades. In every case he systematically administered, at the time of admission, 20 c.c. (5 drachms) of serum, obtained from horses, at one insertion under the skin of the side of the abdomen. If the bacteriological examination showed the child was not diphtheritic the injection was not repeated—128 children affected with various forms of angina were thus treated without suffering the least inconvenience. In diphtheritic children twenty-four hours after the first injection he gave another of 20 c.c. or 10 c.c., which was generally sufficient to complete the cure. The pulse and temperature guided him; if they remained high, the injection was repeated. So long as the temperature does not fall below 100.5° F. the curative effect is not complete, it must be hastened by a supplementary injection. The minimum amount of serum used was 20 c.c. (5 drachms), and the maximum 125 c.c. (4 oz.). During convalescence, some days after the injection of the serum, ill-defined eruptions sometimes appeared, most frequently resembling urticaria.

The principal modifications produced by the serum on the diphtheritic angina were the following:—The general condition remains very good or improves quickly, provided that the treatment has been commenced early enough in the case. The children are more lively and cheerful, the duration of the disease is curtailed, the appetite quickly recovers, and the wasting is slight. The complications following diphtheria are more rare. The false membrane ceases to grow within twenty-four hours after the first injection, and detaches itself in thirty-six or forty-eight hours, at the latest by the third day. The temperature falls promptly under the action of the serum; a sudden crisis-like form of fall of temperature often occurs, and is of excellent prognostic import. In severe cases the temperature begins to fall only after the second or third injection, and then falls slowly. The pulse only

returns to normal two or three days after the temperature. It is well known that angina in which the diphtheria bacillus is associated with streptococci is of graver import than pure diphtheritic angina. In these complicated cases the serum is less efficacious; it produces good results only when injected in strong and repeated doses. The disease lasts longer, and the return to health is more gradual. There is much danger of bronchopneumonia.

In addition to the serum, the only treatment used was a mouth-wash of boric water, or water to which 5 per cent. of "Eau de Labarraque" is added.

The numbers of cases mentioned in Dr. Roux's paper being large, we can refer to them with confidence as expressing the value of the treatment. Diphtheria is a very fatal disease in Paris; the total mortality of children in the hospital during the last four years is 51·71 per cent. From Feb. 1st till June 24th the serum treatment was applied to 448 patients, of whom 109 died, a mortality of 24·5 per cent. During the same period 520 children were admitted into the Hôpital Trousseau who did not receive any serum treatment; of these 316 died, a mortality of 60 per cent. Of cases of faucial diphtheria the mean mortality for four years has been 34 per cent.; but of those who were treated with serum it has been 12 per cent. Of laryngeal diphtheria in which tracheotomy was performed, the corresponding figures are 73·2 per cent. and 49 per cent.

In some of the above cases the Klebs-Löffler bacillus was not found. Excluding these, there remain 300 cases of true diphtheria treated with serum, with 78 deaths—a mortality of 26 per cent. The mortality of such cases in the same hospital, treated without the serum, has been 50 per cent.

The presence of streptococci made the cases more severe. Of 115 cases of pure angina the mortality was 1·7 per cent.; while of 45 who had angina associated with the streptococcus the corresponding figure is 17·7 per cent.

With regard to tracheotomy, Dr. Roux says the serum treatment, by causing the membrane to cease growing and to become detached, will lessen the number of operations, and, if the operation has been done, will enable us to remove the tube on the third or fourth day. On account of the shortened duration of the disease he believes intubation will largely take the place of tracheotomy.—*Lancet*, Sept. 22, 1894.

Dr. Aronson (Berlin), at the same Congress, said he had employed serum from an immunised horse, which was five times stronger than that of Professor Behring. In five months ending with July he had treated 192 patients suffering from diphtheria, as proved by bacteriological examination. In 23 cases the children were moribund when admitted. Of the rest, 19 died, giving a mortality of 11·2 per cent. In the same hospital the mortality for the preceding three years had varied from 32·5 to 41·7 per cent. He had also employed the serum in producing immunity in the children of families in which a case of diphtheria had occurred. Among the 130 children thus inoculated only 2 contracted diphtheria, and that of a very light type.—*Brit. Med. Jour.*, Sept. 15, 1894.

The strength of any given specimen of serum can be ascertained only by experiment. An animal (a guinea-pig) is taken, and into him is injected ten times the minimal fatal dose of diphtheria poison, to which, before injection, a certain quantity of the antitoxin-serum has been added. In this way, by varying in the case of different guinea-pigs the amount of protective serum, it can easily be discovered what is the quantity of serum needed to neutralise the poison. Often on the next day, and always on the second day, after inoculation, the symptoms and appearance of the animal indicated if the proper dose of antitoxin had been employed.

This serum treatment has been employed in England to some extent. Up to the present there has been considerable difficulty in procuring a sufficient supply of the serum, which requires time in its preparation. No statistics are, up to the present time, available, as the number of cases has not been large enough, and in many of them the diagnosis of diphtheria is not certain, no bacteriological examination having been made. It is, however, important to note that the general tone of the published communications on the subject is very favourable.

A good deal still requires to be done to settle the proper dose under different conditions of age and severity of attack. The more severe the attack, and, especially, the longer it has lasted before the serum is injected, the larger is the dose required.

It would appear that the serum is quite harmless, and that an overdose can do no injury. On the other hand, too small a dose has insufficient effect on the disease. As a matter of fact, the amount of serum employed has varied from 10 minims up to

125 c.c. (4 ounces) in some of Roux's cases. It is likely that serums of different strengths have been employed. Recently Professor Klein has prepared a serum, of which he says the average dose is $1\frac{1}{2}$ to $2\frac{1}{2}$ drachms.

The serum keeps well for, at any rate, a considerable time. To increase its keeping power a little carbolic acid is often added to it. It is not known how long it will retain its full powers, but will probably do so for several months.

We may conclude this notice by quoting from a paper by Professor Behring:—"We are now in a position to state that in cases of diphtheria treated with the antitoxin serum within the first forty-eight hours of the disease the mortality will not reach five per cent."—*Berliner klin. Woch.*, No. 36, 1894.

II. MORNING DIARRHŒA.

By this term Dr. Lauder Brunton means a chronic form of diarrhœa, which comes on every morning, the bowels acting several or many times between eight and ten or eleven o'clock, and then not acting again till next morning. With regard to the causation of this ailment, he quotes the view of M. Chauvet, who considers that in most cases the stomach is rather dilated, and the food, instead of being expelled through the pylorus a little at a time, as it ought to be, lies in the dilated organ through the hours of sleep, and on awaking is poured out *en masse* into the small intestine, through which it quickly runs into the large intestine and on to the rectum.

It is not always necessary for the patient to get up in order that these phenomena may occur—a mere change of posture in bed may be sometimes sufficient.

While Dr. Lauder Brunton holds that this dilatation of the stomach is one of the factors in the production of morning diarrhœa, he does not consider that it is the sole, or even the chief, factor. He believes that morning diarrhœa is usually dependent upon an irritable condition of the sigmoid flexure, or even of the rectum. Sometimes there may only be chronic inflammation or congestion, while at other times there may be actual ulceration. In the great majority of cases there is tenderness on pressure over the sigmoid flexure, which may be felt hard and contracted like a rope under the palpating finger. He points out that even though the fluid contents of the small intestine be propelled into the cæcum and colon, no diarrhœa will occur unless the sigmoid flexure partici-

pates in the peristaltic movement. The proper function of this part of the intestine is probably to keep back the intestinal contents until time has been allowed for the absorption of their more fluid constituents ; its peculiar bend assists in promoting this function. If, however, the sigmoid flexure be irritable, and more especially if it have an ulcer on its mucous membrane, the contents of the transverse and descending colon when poured upon it will be apt to excite peristaltic movements, and thus cause ejection from time to time of these contents into the rectum. Here they will excite expulsive efforts, and the motions will be frequent and fluid.

With regard to treatment, he recommends that no liquids be drunk after five, six, or seven o'clock at night—i.e., for twelve or fifteen hours before the attack would usually come on. If the patient finds this *régime* burdensome he may, perhaps, be allowed to take a glass of wine with his dinner, but he should avoid soups and all other liquids at dinner, tea or coffee after it, and especially any aerated water, either with or without spirits, during the evening. If these measures be not sufficient, the quantity of water taken during the earlier part of the day should be restricted ; such drugs as bismuth and soda, spirit of chloroform and cinnamon water are useful.

In obstinate cases, massage applied to the abdomen is the most useful remedy. Dr. Lauder Brunton also recommends the local application of ointment. For this purpose he has had a special ointment introducer, made by Messrs. Arnold (figured in his paper), which is provided with a tube whereby ointment can be introduced into the upper part of the rectum, or higher. He has used an ointment containing bismuth.—*Quarterly Medical Journal*, January, 1894.

III. THE TREATMENT OF NOCTURNAL ENURESIS.

In obstinate cases of this complaint, which have resisted ordinary modes of treatment, and in which the patient has come to the age of puberty, Dr. Donald MacAlister considers that the secret of success lies in courageous overdosing with atropin. Having ascertained that no condition requiring surgical interference exists, he employs this drug and gradually pushes it to the full limit of tolerance, and in no instance out of some twenty cases has he failed to effect a cure. He directed that a boy, in a case which he describes, should drink no fluid after 6 p.m. ; that at 9 p.m. he

should take five drops of the following mixture in a tablespoonful of water (age of boy, fourteen years):—

Liquoris atropinæ sulphatis, ʒiiss.

Liquoris strychninæ hydrochloratis, m̄xliv.

Syrupi aurantii, ad ʒi.

And that he should go to bed at 10, after emptying the bladder; that he should be waked to pass water at twelve, when his parents went to bed, and again at six when the servants rose. This dose was to be continued for three nights; then ten drops nightly for the next three, then fifteen for the next three, and so on till thirty drops were taken. This dose was continued for a week, when enuresis occurred. The dose was increased by five drops every three nights till sixty drops were taken. This dose was continued for a week; no enuresis occurred, and the dose was diminished by ten drops every three nights, until after nine weeks the treatment was discontinued. The enuresis, which had occurred two or three times a week since early childhood, never recurred. In this case the drug caused dryness of the throat, and dilated pupils, and paralysed accommodation so that he became unable to write.

In this case the maximal dose given was about $\frac{1}{2}$ grain of sulphate of atropin, but in the case of a girl of seventeen he pushed the dosage up to $\frac{1}{4}$ grain of the sulphate of atropin nightly, with ultimate success. In no instance were the secondary effects alarming in any way, or, indeed, more than slightly inconvenient. The addition of strychnin probably diminishes the depressing effect of large doses of atropin, and increases the sensitiveness of the vesical centres to reflexes from the bladder walls.—*Practitioner*, May, 1894.

IV. THE DRUG TREATMENT OF PHTHISIS.

Dr. F. C. Coley believes that *guaiacol carbonate* influences favourably the general condition of the patient, and enables him to gain both in strength and weight: it does not appear to control any special symptom. It has many advantages over creasote, which it resembles in its effects. Although not quite tasteless, it is not seriously disagreeable. Children take it without making any special objection. Only one of Dr. Coley's patients complained much of its taste, and she was the only one who spoke of any nausea following it. In her case the drug was administered in tabloid form, and so the difficulty was overcome. In all his other cases it was given in powder. He has been in the habit of begin-

ning with gr. 5 every night, gradually increasing the dose, and, after a while, giving a second dose every morning; but he now believes that larger doses are quite safe—as much as gr. 15 to begin with. He has given up to 50 grs. daily, and has seen no ill-effects. It has no effect on cough, diarrhœa, or temperature; but while taking it the patients gain in weight.

In the diarrhœa of phthisis he has found *salol* very useful—gr. 5 every morning for an adult.

Another mode of treatment which he has found very useful is the *intra-laryngeal injection of menthol*. The formula he uses is menthol, 20 per cent., guaiacol, 3 per cent., dissolved in olive oil. The laryngeal syringe should have a delivery tube provided with one terminal opening, and should be capable of holding one fluid drachm. The point of the delivery tube should be guided by the help of the laryngoscope into the upper part of the larynx; it is quite sufficient to get it past the epiglottis. From 20 to 30 minims of the solution are injected at once: after a pause of two or three minutes this may be repeated. This excites cough sometimes. The great point in avoiding this is to take care that the patient is making deep respirations while the injection is being given. This secures the wide patency of the rima glottidis, which is necessary for the satisfactory descent of the fluid into the trachea. The instruments must, of course, be carefully disinfected after use.

He thus describes the effects of these injections:—"The dyspnoea is often relieved in a very striking manner, and the relief from cough often lasts for two or three days; thus rest and sleep are secured. Any patient who can tolerate an ordinary laryngoscopic examination can bear these injections."

As an *inhalation*, to be used with Burney Yeo's inhaler, he recommends—

Tr. iodi æthereæ, 3ij.

Acidi carbolic, 3ij.

Creasoti *vel* thymolis, 3j.

Spiritûs chloroformi, ad 3j.

—*Practitioner*, Oct., 1894.

V. CREASOTE IN TUBERCULOSIS.

Dr. Burbureaux has used this drug very extensively during the past five years, both in private and among the military prisoners in the Hôpital du Val-de-Grâce. Of 300 cases under prolonged observation, 15 gave very favourable results, 92 encouraging, 115

good, and 32 moderate, in 46 no effect was noticed. All the 15 cases were considered hopeless before the treatment began; all took creasote well, and all have been perfectly well for periods varying from six months to three years. He points out that creasote seems to have much more effect in cases occurring among the poor and ill-fed than among the well-fed and healthy, the probable explanation being that a given tubercular affection may not be sufficiently virulent to gain root in a healthy person, while it may do so in an ill-fed man, the proportion of slightly virulent cases being, therefore, greater among the poor than among the wealthy. A phthisis beginning in a previously healthy person, especially if the onset be acute or sub-acute, should be looked on with grave mistrust, as the bacillus is probably very virulent, and creasote will not do much good.

The symptoms of intolerance of creasote are (in order of importance)—sensations of coldness coming on six or seven hours after administration; sudden fall followed by a rise of temperature; sweats, immediate or coming on after a time; black urine, and vertigo. When these symptoms are well marked, it is only injurious to continue the treatment; when less marked, a smaller dose may be tried, but it is rarely possible to overcome the intolerance.

The dose must be found out for each case by careful trial, the largest possible dose being administered. The author has given 27 minims of creasote in a day; after a week, 50; and after a month, 150 minims, without reaching the limit of tolerance. He strongly believes the greater the dose the greater the effect. It may be given by the mouth or the rectum or hypodermically.—*Gaz. des Hôpitaux*, June 18, 1894, and *Med. Chronicle*, Sept., 1894.

VI. LÆVULOSE IN DIABETES MELLITUS.

Dr. Hale White has tried lævulose in eight cases, and has formed the following opinions:—(1) If large amounts of lævulose be given, some of it appears in the urine. (2) In none of these cases did lævulose have the pernicious effect, often seen with ordinary carbohydrates, of increasing the output of sugar beyond the extra quantity given. (3) When lævulose is given the excretion of sugar is usually increased, but may be diminished. (4) In most cases much less sugar is passed in the urine after giving lævulose than would have been excreted if the previous excretion of sugar remained stationary, and all the lævulose had appeared in the urine.

(5) There is some evidence that the larger the amount of lævulose the less will be the increase of sugar in the urine. (6) While some of the cases show that lævulose can be utilised better than dextrose, none show that dextrose can be utilised better than lævulose. (7) Some of the patients felt better while taking lævulose and gained weight, none of them felt worse.—*Guy's Hospital Reports*, 1894, and *Practitioner*, October, 1894.

Dr. J. B. Haycraft has studied the effects of lævulose in three cases of diabetes. He says—(1) A patient suffering from chronic diabetes can make use of 50 grammes or more of lævulose daily. (2) In some acute cases a part of the lævulose taken with the food is excreted as such, a part is utilised in the body, and a part is transformed into glucose. (3) In rabbits glycogen is formed from the lævulose taken, and is stored up in the liver.—*Medical Chronicle*, September, 1894.

VII. SCARLATINA-LIKE RASHES IN CHILDREN.

Dr. Ashby calls attention to the great difficulty in diagnosing the nature of some of these rashes. Scarlatina is characterised by—(1) a diffuse punctiform rash covering the trunk, back, and limbs, which even in its mildest form remains visible for twenty-four to forty-eight hours; (2) tonsillitis; and (3) fever. A red rash which is seen by candle-light and is gone by daylight is not scarlatinal. A scarlatinal rash persists for a day at least, and though it may appear to be erythematous, yet the red points which correspond to the hair follicles are of a deeper colour than the surrounding skin.

Of these three signs the rash is the most important. Scarlatina may be practically a feverless disease; the fauces may be only doubtfully reddened. On the other hand, a red rash is often seen in the course of other diseases.

Dr. Ashby, during the recent influenza epidemic, met with several cases which in their general character resembled influenza, but which were accompanied by a rash very like that of scarlatina. Others have noticed the same phenomenon. In some of these cases there was tonsillitis, and desquamation followed as in scarlatina. In Ashby's cases no infection from scarlatina could be traced; this disease did not exist in the neighbourhood. It would appear impossible to make a positive diagnosis from the morbid appearances, and every case in which a red punctiform diffuse rash appears should be treated as if scarlatina.

Rötheln, too, sometimes most closely resembles mild scarlatina, having a diffuse red rash and tonsillitis. This kind of Rötheln sometimes occurs in epidemic form. The attacks began suddenly with fever, headache, a red rash, and sometimes vomiting. The fever, which ranged from 101° to 103° , lasted two to four days, and the rash about the same time. The rash was general except on the face. "Diagnosis was only possible by observing we were in the presence of an epidemic of a mild disease, in which there were no bad cases, no complications or sequelæ." When several cases of the kind have occurred, the long incubation of Rötheln (18 to 21 days) helps to distinguish the disease from scarlatina, whose incubation is two or three days.

Diphtheria and cases in which there is abundant suppuration, are apt to be accompanied by a red rash. "Surgical scarlatina" is usually scarlatina occurring in a subject under the care of a surgeon, but in cases where there is abundant suppuration there may be a rash, red, but more dusky than in scarlatina. Such a rash may be seen in bad scarlatina where there is much suppuration about the neck, in bad diphtheria, and in empyema cases.

The only "drug eruption" likely to cause confusion is that due to belladonna or its alkaloid. Antipyrin produces a rash more of the measles or nettle-rash type. In ptomain poisoning an erythematous rash may occur.

With regard to desquamation, Dr. Ashby does not consider it is always of much value in establishing a diagnosis. Mild cases of scarlatina often do not desquamate at all, or differ in no way from other febrile attacks—such as influenza or pneumonia. It is only some attacks of scarlatina that are followed by such peeling as is not seen after any other disease.—*Medical Chronicle*, June, 1894.

VIII. THE ANOMALIES AND COMPLICATIONS OF CHICKEN-POX.

Dr. L. Galliard, in *La Médecine Moderne*, shows that chicken-pox may be a serious disease; capricious in its course; difficult of diagnosis. The characteristic eruption of vesicles may be preceded, accompanied, or followed by a rash like that of scarlatina, which commonly lasts for twenty-four hours and is accompanied by fever, but is devoid of any prognostic importance. The normal eruption may stop short in the papular stage, or vesicles may form and become confluent, so attaining extraordinary dimensions.

Intense inflammation of the mouth and pharynx may co-exist

with chicken-pox. Nose-bleeding occasionally occurs; other hæmorrhages are rare. Henoch and others have described a varicellous nephritis, which may be severe and even cause death. Therefore the urine should be examined in all cases. Gangrene is the most formidable complication, and the one longest known; it may occur in any case, even the mildest. The gangrene generally begins at the margin of the vesicles, and thence spreads, adjacent areas coalescing. Death is the usual result.—*New York Med. Jour.*, June 2, 1894.

IX. THE TREATMENT OF GONORRHOEAL RHEUMATISM.

In a paper on this subject in the *New York Medical Journal*, Dr. Ramon Guitéras recommends the salicylates during the first few days of the attack as decreasing the fever and the severity of the pains. After this period salicyl compounds cease to be of any use. Of these compounds he prefers salol, as being more pleasant to take and less likely to cause stomach disturbance than salicylic acid. In the later stages he recommends colchicum combined with potassium iodide; he thinks that colchicum has a distinct influence on the urethritis as well as on the arthritis. He is opposed to the use of any kind of injections, and holds that gonorrhœa should be treated only by remedies given internally—copaiba, cubebs, and sandal-wood.

When there is any thickening about the joint iodide of potassium is useful, as also is counter-irritation, for which purpose he strongly recommends an ointment of equal parts of ichthyol and lanoline. After acute symptoms have passed away, massage, electricity, and the use of elastic bandages hasten recovery.—*Internat. Med. Magazine*, June, 1894.

X. THE MANAGEMENT OF FEVERS, AND PARTICULARLY OF TYPHOID FEVER.

In a most suggestive paper Dr. I. Burney Yeo calls attention to the necessity of modifying our ideas as to the management of fevers, in the direction pointed out by our advances in knowledge as to the causation, both of these diseases themselves, and of the symptoms noted during their progress. Typhoid fever (he speaks of this fever as being typical of the whole of the class) is due to a microbe. This microbe produces substances within the body (toxalbumins and ptomaines) which act as poisons on certain of the tissues, and by their toxic action excite the morbid manifesta-

tions which characterise the disease. Certain substances outside the body will arrest the growth and put a stop to the activities of these microbes, while there are other conditions, and notably the presence of substances in a state of putrefaction, which greatly promote their growth and stimulate their activities. Treatment should be "antitoxic"—i.e., should be directed against the bacilli and their products.

After mentioning several drugs which have been employed to promote *intestinal antiseptis*, he says:—"We should attempt more than this, and endeavour to produce an *antitoxic* effect on the blood and the tissues." To attain this end he employs the following mixture:—Into a 12 oz. bottle put 30 grains of powdered potassium chlorate, and on this pour 60 minims of strong hydrochloric acid; a yellowish-green gas is at once liberated. Close the bottle with a cork, and agitate the mixture gently until the bottle is filled with the gas; then pour water into the bottle, little by little, closing the bottle at each addition and shaking well, until the bottle is nearly filled. In this dissolve from 24 to 36 grains of quinine, and add some syrup of orange-peel to make it more agreeable to take. Of this, to adults, he orders one ounce to be given every two, three, or four hours, according to the severity of the case.

This method of treatment he has adopted for the past ten years in all the cases of typhoid that have come under his care, with uniformly good results in all but two cases. It is most important that it should be begun early in a case.

The following are the effects he has noticed:—

1. There is a remarkable cleaning of the tongue and mouth.
2. The foul putrefactive odour of the fæces is rapidly removed if the remedy be given often enough, and in sufficient quantity; the odour of chlorine is often noticed in the stools.
3. The pyrexia is continuously lowered.
4. In certain cases, especially in young subjects, and if the treatment has been begun quite early in the case, the average course of the fever appears to be notably shortened.
5. The patients seem subjectively much less disturbed by the fever poison; their physical strength and intellectual clearness are better sustained.
6. Convalescence is more rapid and complete, and troublesome sequelæ, as far as his experience has extended, are unknown.

He also approves of a calomel or other purge in the initial stage

of the fever, if diarrhœa does not exist, and of washing out the large intestine twice daily with naphtholated water.

In this way, as far as drugs go, the development and activity of toxins is prevented as much as possible. In addition, however, we must adopt a method of feeding which shall by no possibility leave a bulky residue of unabsorbed matter to putrefy in the lower part of the small intestine. We must carefully observe what digestive and absorptive activity exists in each particular case; in many it is extremely small. Too much milk is often given; sometimes it is vomited in curdy masses, and sometimes keeps up diarrhœa, passing in large lumps through the bowels. Far more often, however, if the evacuations be carefully examined, most of the casein of the milk will be found to pass through undigested, not as coarse curds, but as a fine deposit from the "pea-soup" stools. Estimate accurately the absorptive capacity of the patient. If he cannot absorb milk at all, give him some other food. If he cannot absorb four pints in the twenty-four hours give him two, and if he cannot absorb two pints give him one, and if he cannot absorb more than half-a-pint give him half-a-pint.

Give all food *very dilute*; milk should be diluted with twice its bulk of water. We wish, for antiseptic and elimination purposes, to give as much pure water as the patient will drink—give it then as a diluent of his food.

He believes that the general tendency is to give alcohol too early and too freely; in severe and protracted cases it is needful towards the end. If marked cardiac debility exists, its beneficial effect is increased by the administration of coffee at the same time.—*Amer. Jour. Med. Sciences*, June, 1894, p. 640.

XI. ADHERENT PERICARDIUM IN CHILDREN.

Dr. T. Fisher calls attention to the serious consequences that result from this lesion. He says—"Adherent pericardium is the most common cause of enlarged heart in children. This sequence of pericarditis is much more serious in its nature than valvular disease; children in whom it is present will probably never reach adult life." He quotes Sansom and Sturges, the former of whom writes:—"A valvular lesion may be perfectly compensated, but pericardial adhesions are adverse and often lead to rapid death."

In the *post-mortem* records of Guy's Hospital he found 14 cases of death from the consequences of adherent pericardium in children of fifteen years of age and under, and in the same space of time

only four cases of death from valvular disease. In all the cases of adherent pericardium the heart was much enlarged, in some enormously so. He records one heart of 23 oz. taken from a girl aged twelve years (the normal weight at this age is about $4\frac{1}{2}$ oz.), and in all the heart weighed at least twice its normal weight.

Adherent pericardium being of such a serious nature, he next considers the means of diagnosticating it. A history of pericarditis in a child suffering from an enlarged heart would make probable the diagnosis of adherent pericardium. In the absence of such history physical signs are of slight value. All the signs usually mentioned—recession of apex-beat, retraction of the lower end of the sternum, constancy of position of impulse in various postures of the patient, &c.—are usually absent. He, however, calls attention to one sign which he thinks of importance. It is a sound heard during diastole, which may constitute part of a typical *bruit de galop*, or be a rumbling sound which might easily be mistaken for a præ systolic murmur. In cases of adherent pericardium with dilated heart, whether there is disease of the mitral valves or not, we shall almost certainly have a systolic mitral murmur due to regurgitation. In addition, we shall probably hear another abnormal sound, interpolated between the first and second sounds. This may be merely like a soft first or second sound, or it may be of a rumbling character, diastolic or præ systolic in time, and thus thought to indicate mitral narrowing. As a distinguishing mark, he says, the præ systolic rumble of a dilated heart is sometimes very low pitched, and the diastolic murmur will probably be heard, not only just round the impulse, as is common in mitral narrowing, but also over the right ventricle in the third and fourth intercostal spaces.—*Bristol Med. Journ.*, June, 1894.

XII. BICHROMATE OF POTASSIUM IN DISEASES OF THE STOMACH.

Professor Frazer records 28 cases in which this drug was employed, as far as possible, apart from all other medicinal treatment. In 18 cases the disturbance was probably functional or inflammatory, and manifested itself by pain, distress, and tenderness in the gastric region, nausea, and vomiting. Constipation and anæmia were also often present. The bichromate rapidly removed all these symptoms, except the constipation and anæmia. In 10 cases in which symptoms of gastric ulcer existed, or had existed, it was also found to afford valuable relief. The dose varied from $\frac{1}{2}$ to $\frac{1}{8}$ grain, thrice daily, given on an empty stomach. It may

be given in pill or in solution ; the latter mode is generally available. Some simple flavouring may be added to the mixture. In cases of acute ulceration with hæmatemesis, bichromate of potassium is of little use, as it does not check hæmorrhage. Professor Frazer believes the drug is useful, partly because it checks putrefaction and partly because it has an analgesic action on the gastric mucous membrane.—*Lancet*, April 14, 1894, and *Quar. Med. Jour.*, Vol. II., Pt. 4.

XIII. THE HEART IN CHOREA MINOR.

In this connection Dr. Osler discusses—

1. *The condition of the heart during the attack.*—Cases of chorea with exaggerated movements may present for days an excessively rapid heart action. On the other hand, with the mental enfeeblement which sometimes follows chorea the pulse may be abnormally slow, beating in a child of ten or twelve at the rate of 70 or 80 a minute. He has never seen a case in which the disordered movement was of such a kind that it might be attributed to a special choreic action of the heart-muscle.

With regard to the frequency of murmurs, out of 554 cases 170 (30·7 per cent.) presented heart murmurs, in 149 apical, in 21 basic. These murmurs may be functional or organic.

Functional.—A basic systolic murmur, generally pulmonary in maximal intensity, but sometimes aortic, may be due to the very excited and rapid action of the heart. Anæmia and debility may cause soft systolic murmurs in the pulmonary artery and apex areas, often, too, heard intensely over the body of the heart along the left sternal margin. Frequently with it one notices a wide area and fulness of cardiac impulse, and sometimes systolic pulsation in the cervical veins. These murmurs are, in all probability, caused at the pulmonary and tricuspid orifices. In protracted cases with marked debility and weakness of the heart-muscle the systolic apex murmur may be mitral in origin and be due to muscular insufficiency. Dr. Osler does not believe in mitral regurgitation due to irregular and disordered (choreiform) action of the heart-muscle. "In a large proportion of all cases of chorea in which a murmur is heard at the base or along the left margin of the sternum the disturbance is probably functional."

Organic.—"There is no disease, not even acute rheumatism, which is so often accompanied by acute endocarditis as chorea. The mitral valve is the part most often affected. The symptoms and

signs of endocarditis are very uncertain; both may be entirely absent, and yet after death vegetations on the mitral segments may be found. The apex beat may be a little diffuse and the area of dulness increased. An alteration of the first sound, which has a prolonged or dull character, with the subsequent occurrence of a blowing murmur at the apex region, developing under observation before the patient has become much enfeebled or anæmic, are the most reliable signs. We must, however, remember that endocarditis may exist without causing any murmur. Vegetations have been found on the mitral segments after death in cases where no bruit existed. These are facts which suggest that we may have during the attack an endocarditis, not manifested even by a murmur, which has, however, laid the foundation of future trouble."

2. *The condition of the heart in fatal cases.*—Osler has collected statistics of 155 fatal cases, and in 136 of these the heart was affected. Most often the mitral segments were the only parts affected. In some cases the aortic or tricuspid valves were involved as well. Very rarely is the aortic valve the only seat of disease. "In the almost constant association with endocarditis, chorea stands unique among diseases."

3. *The subsequent condition of the heart in choreic patients.*—Dr. Osler investigated the state of the heart in 140 cases—98 males and 42 females—two or more years after an attack of chorea. In 51 cases the heart was normal; in 17 there was disturbance, which might reasonably be regarded as functional; in 72 cases (51½ per cent.) there were signs of organic heart lesion. In most of these cases the physical signs pointed to mitral regurgitation. In 24 cases a mitral præ systolic murmur was present. There were only 4 cases of combined mitral and aortic disease. It is to be remarked that in the majority of these cases of organic disease there had been no articular complication of the chorea.

4. *Pericarditis in chorea.*—Pericarditis is not so common. Of the 72 autopsies in chorea collected by Osler, pericarditis occurred in 19 cases, in 17 of which it was associated with endocarditis; in 8 of the cases there was a history of acute rheumatism.

The following sentence is to be remembered :—"In a considerable number of cases of chorea, much larger indeed than has hitherto been supposed, the complicating endocarditis lays the foundation of organic heart disease."—*Med. Chron.*, August, 1894.

XIV. THE DIURETIC ACTION OF CALOMEL IN BRIGHT'S DISEASE.

There has existed up to the present a widespread objection to the use of calomel in dropsy dependent on Bright's disease. This objection has been fostered by the theories of Rosenheim and Jendrassik as to its mode of action, the former attributing its diuretic effect to a direct stimulation of the renal epithelium, while the latter holds the following view—under the influence of the drug the endosmosis of fluid from the tissues into the blood-vessels is increased, the blood, therefore, becomes more watery, and the kidneys, in accordance with their physiological function, endeavour to withdraw this extra amount of water from the blood, until it recovers its normal proportion.

Dr. T. Sklodowski had occasion to prescribe calomel as a diuretic in more than 40 cases, in about half of which the dropsy was caused by Bright's disease. Out of 14 cases of nephritis, 7 were undoubtedly benefited, 2 seemed somewhat relieved, and in 5 cases no result could be traced from its use. In 5 of the 7 cases benefited, calomel was the only diuretic used, in 2 caffeine had been previously used without effect. In no case could any evil effect be traced to the calomel. It often does good in Bright's disease, and should be more often employed in these cases, especially as we have very few drugs which have any effect on this condition. Sometimes in very bad cases, in which other drugs are useless, it promptly relieves.

It is unfortunate that one cannot say, in any given case, whether calomel will be of use or not. Neither the course of the disease nor any of the symptoms help us in deciding this point; it however is certain that it is useful in cases both of acute and of chronic nephritis. If it has caused diuresis in any given case, if the dropsy returns, a second course of calomel will generally cause it to disappear.—*Deutsches Archiv. f. klin. Med.* 52, Heft. 3 & 4.

XV. A MODE OF MAKING PERMANENT PREPARATIONS OF URINARY TUBE-CASTS.

K. Bohland collects the sediment, preferably by means of a centrifuge, pours the supernatant urine away, and washes the sediment with a solution of sodium chloride. Then it is for 14 days treated with Müller's fluid, the fluid being several times changed during this time. Then all the Müller's fluid is poured off, and absolute alcohol is used to harden the casts, the alcohol

being changed until it ceases to be coloured or standing over the sediment. Tube-casts so treated are slightly shrunken, but otherwise are excellently preserved. If the alcohol is allowed to evaporate, they retain their characters even when dry for a considerable time. They can be stained, and thus better preparations are obtained than can be procured even from fresh specimens.

Bohland adds, that he never could detect fibrin in the tube-casts.—*Centr. Bl. f. innere Med.*, 1894, No. 20.

EXPERIMENTAL TYPHOID FEVER.

SANARELLI (*Ann. de l'Institut Pasteur*, April, 1894) gives an account of an exceedingly interesting series of experiments in the production of a disease by typhoid toxin which resembles closely that produced by the bacteria themselves. The toxin was prepared by inoculating flasks of the culture fluid with virulent typhoid bacilli, and allowing them to stand for about a month at a temperature of 37° C. They were then sterilised and kept at the ordinary temperature for about eight months, at the end of which time they were hermetically closed and allowed to macerate for several days at 60° C. The liquid in the flasks formed two layers, the upper being perfectly clear, which was carefully removed. The toxic and pathogenic effect of this fluid was tested on rabbits, mice, guinea-pigs and a monkey. The summary of the results obtained in reference to typhoid is as follows:—1. Eberth's bacillus, having penetrated the organism, produces a toxin which acts on the nervous system and brings about death by collapse. 2. In addition to this toxic effect, this toxin acts peculiarly on the mucous membranes, especially of the intestine, and thus brings about the familiar lesions. 3. All of the anatomical changes produced by the toxin, and independently of the virus, are accompanied by symptoms presenting very close analogies with those of human typhoid. 4. In experimental, as in human typhoid, Eberth's bacillus is not found in the intestinal contents; this fact militates against the idea that the disease is a process infectious in origin localised in the intestine. 5. The absence of the specific organism from the contents of the intestine is explained in two ways:—(a) Because typhoid fever is an infection of the lymphatic system only; (b) because directly the poison begins to act on the intestinal walls *B. coli* becomes pathogenic, and increases so enormously as to obliterate other forms. 6. Given the grave toxic anatomical changes of the intestinal mucous membrane, the *B. coli* constitutes the first cause of the secondary infections and localisations so frequent in the disease. 7. If the animal is partially vaccinated the *B. coli* in the intestine produces only local effects. 8. Animals vaccinated against Eberth's bacillus are also vaccinated against *B. coli*.

PART IV.
MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.

General Secretary—W. THOMSON, F.R.C.S.I.

SECTION OF PATHOLOGY.

President—J. A. SCOTT, M.D.

Sectional Secretary—J. B. STORY, F.R.C.S.

Friday, November 2, 1894.

The PRESIDENT in the chair.

Iron Deposits in Pernicious Anæmia.

DR. SCOTT showed sections taken from two cases of pernicious anæmia under the care of Drs. Beatty and Bewley in the Adelaide Hospital. The blood showed considerable variation in size of the corpuscles, and many nucleated corpuscles. In one case the iron was deposited in the outer zone of the hepatic lobules, while the kidney was free from iron in excess; while in the other case the iron was found in the kidney only by the Prussian blue reaction, the liver being free.

DR. FRAZER asked in what form Dr. Scott considered the iron to be present in the specimens exhibited?

DR. BOYD said he considered the increased hæmogenesis in pernicious anæmia to be due to an increased hæmolysis. The fact that the increased hæmolysis was frequently best marked in the liver might possibly be due, as Dr. Hunter suggested, to the absorption of toxins by the portal system; these then acting on the blood corpuscles caused the iron to be set free in the hepatic cells. In the anæmia following hæmorrhage increased hæmogenesis brought the blood up to the normal standard,

and it was conceivable that in both cases increased demand caused increased supply.

DR. GRAVES mentioned some cases of pernicious anæmia in which he had demonstrated a good deal of iron to be present in the liver cells.

DR. SCOTT, in reply, stated that the iron was probably present in the form of an oxide. It is quite possible that toxins may be absorbed, but it is doubtful whether this occurs at the beginning or end of the disease. In one of Dr. Graves's cases he remembered that the spleen in certain parts gave a Prussian blue reaction.

Tubercular Iritis.

MR. ARTHUR BENSON showed a microscopic section of a case of what appeared to be tubercular iritis. The case had been seen by him in London in May last, through the kindness of Mr. Hartridge, and the section was sent to him by Dr. Robert Jones, with a short history of the case—a girl, aged fifteen, without definite tubercular history. She had been troubled with the eye for about nine months, a brown spot on the base of the iris being the first change noticed. Other similar ones followed. The growth consists of a granulomatous-looking mass (with a few ill-defined giant cells), situated near the base of the iris and blocking up the iritic angle. The eye having become blind, was enucleated.

MR. SROXY related a case of a girl he had seen, many years ago, with an ulcer on the conjunctiva, between the lower lid and the eyeball. This was treated for many months without effect, and finally the eye was enucleated. Microscopic sections, which he had exhibited in 1881 at the International Medical Congress in London, showed very fine giant cells. The experts there present considered it a case of tubercular disease. The girl is now alive and healthy.

MR. SWANZY said that within the last two years he had seen about four cases of tubercular iritis. The diagnosis depended upon the presence of small tumours of a cinnamon colour, varying in size from a pin's head to three or four pins' heads, and numbering in an eye from two to ten. Stippling of the back of the cornea and iritis were also present. He had removed one of these growths, and had submitted it to a pathologist for examination, who stated that on microscopic examination it resembled rather a sarcomatous than a tubercular growth. Later on he had the opportunity of showing it to Professor Leber of Heidelberg, who said that, although he could not be positive, he thought it was a tubercular growth. This gentleman had stated that it was extremely difficult to meet with the tubercle bacilli in such cases, but that if an inoculation was made into a rabbit's eye the animal died of tuberculosis. It was an interesting question whether the lesion was primary or secondary. In all his cases he could find no evidence of tubercular disease elsewhere. All the cases he had seen made a fairly good recovery,

and Professor Leber had devised the term of "attenuated tuberculosis" for these cases, meaning thereby that they were capable of recovery. Might not something similar occur in other parts of the body also?

DR. SCOTT remarked on the considerable difficulty of finding tubercle bacilli in the human tissues, whereas it was quite easy to demonstrate them in those of animals. He said it was no uncommon thing to find at a *post-mortem* examination evidence of healed-up tubercular lesions of the lung.

MR. BENSON briefly replied.

Melanotic Tumour of Eye ; Death from Secondary Growths.

MR. STORY and MR. GRAVES communicated the case of a man, aged fifty-four, from whose sclerotic a melanotic tumour, about the size of a broad bean, was removed in February, 1890. In autumn of the same year a second growth, of the size of a small pin's head, was removed from the conjunctiva of same eye, and nothing went wrong till the spring of 1893, when the præauricular gland began to enlarge. It was removed by Mr. Franka, but new growths developed in the jaw and abdomen, and the patient died in the spring of 1894.

The two eyeball tumours were typical specimens of the alveolar sarcoma, exactly resembling Ziegler's illustration in the chapter on sarcomata of peculiar type, showing agglomerated groups of epithelial-like cells, separated by well-marked fibrous septa, the pigment cells lying chiefly in the septa. The gland tumour, in addition, exhibited specimens of other types—round-celled, spindle-celled, pigmented and non-pigmented sarcomata.

Spontaneous Fractures of the Clavicle.

DR. E. H. BENNETT presented specimens of spontaneous fractures of the clavicle. He briefly discussed the question of spontaneous fractures in general. He presented specimens of spontaneous fractures in clavicles due to syphilis, malignant disease, rickets in the infant, in the adult, and in the aged, and he directed attention to the importance of the study of these injuries and the mechanism of their production, attributing the fractures of infantile and adult rickets and of syphilis to muscular action, those occurring in the aged to action of the weight of the upper extremity.

The Section then adjourned.

SECTION OF SURGERY.

President—**THORNLEY STOKER**, President of the Royal College of Surgeons in Ireland.

Sectional Secretary—**KENDAL FRANKS**, F.R.C.S.I.

Friday, November 9, 1894.

The **PRESIDENT** in the Chair.

The **PRESIDENT** gave an Address on "Some Thoughts on the Method of Relieving an Obstructed Bowel."

Operations for Cancer of the Jaws and Tongue.

SIR WILLIAM STOKES commenced by giving briefly the details of a series of cases of cancer of the upper jaw, the lower jaw, tongue, and floor of the mouth. Some of the cases had been under his care in the Richmond Surgical Hospital and the remainder in the Meath. Many points in connection with the technique of excision of maxillary tumours invading the bones were discussed, as well as the various proposals that have been made and adopted in the removal of the tongue, either partially or in its entirety. The question of the therapeutic value of these operations was fully discussed, and early operation in such cases strongly advocated; but the view that even in cases where the disease is fully developed relief of suffering and prolongation of life may be anticipated was distinctly held. A series of drawings and photographs, some illustrative of many of the points raised in the communication, and others showing results that have been obtained by operative interference were exhibited.

The **PRESIDENT** congratulated the Section on the paper which had just been read, and in commenting upon it expressed his strong belief in the relationship between cancer of the tongue and syphilis. The number of cases of doubtful disease proved to be cancer, and the number of undoubted cases of syphilis which eventuated in cancer must have struck every surgeon of experience. He had a very unfavourable opinion of operations on the tongue, but thought that, if touched at all, the whole of it should be removed. He considered that every plastic operation in such cases not absolutely necessary was to be deprecated.

MR. BENNETT, in referring to the question of heredity of malignant disease, said that at the meeting of the British Medical Association at Cardiff the representatives from Australia had directed the attention of members to the fact that the Insurance Societies peculiar to Australia had instructed their medical examiners to exclude the question of heredity.

MR. CROLY said he had not been able to trace heredity as often as one might have expected. In illustration of the unfavourableness of operating on the tongue he mentioned two cases, one of which was a young man,

apparently a very favourable case, with cancer on the side of the tongue. He excised half the tongue, but in another year secondary growth occurred in the glands. Referring to the *écraseur* he said that he had given it up on account of its slowness, and also because considerable bleeding took place during the operation. With regard to ligature of the lingual arteries, he asked why had preliminary tracheotomy been performed if it was not for the prevention of suffocation from blood. In partial excision it was urged that if only one lingual was tied hæmorrhage would come from the other, but he had not found it so. One advantage of ligaturing the lingual artery was that the same incision served also to examine the whole digastric space and clear out all the glands there. Owing to the tenseness of the cervical fascia it is very difficult, as also in the axilla, to determine before the operation whether the glands were enlarged or not. He considered it better surgery to remove the whole than part of the tongue, especially as complete removal did not prevent articulation. When the disease returns it nearly always returns in the glands of the neck.

MR. WHEELER was not in favour of removing the whole tongue when only a small part was involved. In operating he advised the use of the thermo-cautery scissors; but they should not be heated too much, so as to allow the arteries to spout, as they can then be clipped. He also concurred in the belief that syphilis was a very potent factor in producing cancer of the tongue. After removal of the entire tongue he found his patients could articulate well.

MR. THOMSON entirely agreed with Mr. Croly with regard to the amount of the tongue that ought to be removed; for after an epithelial ulcer has been in existence a short time the glands were already infected; but it took some time for them to enlarge sufficiently to be detected. Even from a very small ulcer infection would follow, so that he believed that partial removal was not good surgery. The return of cancer of the tongue was so frequent that he thought that many cases of non-return were mistakes in diagnosis. He agreed with Mr. Croly that tracheotomy was unnecessary. He had never seen septic trouble set up in the lungs after operation.

MR. MYLES insisted on the necessity of removing any enlarged glands. He considered that a ligature passed round the root of the tongue was of no use in checking hæmorrhage from the lingual arteries, owing to the fact that they are present only in the anterior part of the tongue. He denounced the *écraseur*, because, he said, when being used it had a tendency to travel in the direction of least resistance, and so to encroach upon the easily broken-down cancerous mass. In removal of the upper jaw he considered that preliminary tracheotomy greatly facilitated the administration of the anæsthetic; and that, if the tube was removed immediately after the operation, no bad results followed, and the wound healed by first intention.

MR. TOBIN emphasised the importance of opening the digastric triangle and removing any infected glands. When preliminary tracheotomy was performed it was better to remove the tube at once, and so lessen the tendency to septic pneumonia.

MR. FRANKS, in referring to complete or partial removal of the tongue, thought that each case must be decided on its merits; as, for instance, if a patient has got a small ulcer on the side of the tongue, well away from the middle line, it would be a mistake to remove the whole tongue. He himself had had two successful cases of partial removal. The tendency of the disease was to follow the lymphatic channels to the glands, not to cross the middle line. He thought that, even if the operation was not successful, owing to the return of the disease in the glands of the neck, the relief the patient experienced justified the operation. Galvano-cautery possesses the great advantage of speed of operation as compared with the *écraseur*. He followed Mr. Whitehead's method of operating in excision of the tongue, and was never troubled with secondary hæmorrhage. In operations about the mouth generally he considered Rose's position, with the head lowered, the ideal one.

SIR WILLIAM STOKES, in replying, said that he had seen many cases in this country and in Germany of excision of the jaw in which a preliminary tracheotomy had not been performed. He agreed with the President that cosmetoplastic operations ought to be entirely secondary to thorough removal of the disease. He thought an imperfect operation was sometimes permissible to relieve the patient of a fætid ulceration in his mouth, although complete removal of the disease could not be hoped for. He had a personal dislike to the thermo-cautery, as secondary hæmorrhage had occurred in the two cases in which he had used it.

The Section then adjourned.

SECTION OF MEDICINE.

President—WALTER G. SMITH, M.D., President of the Royal College of Physicians of Ireland.

Sectional Secretary—A. N. MONTGOMERY, M.R.C.P.I.

Friday, November 16, 1894.

The PRESIDENT in the Chair.

Patients exhibited by—

DR. H. C. TWEEDY—A Case of Argyria.

DR. JOSEPH REDMOND and MR. P. J. HAYES—Patient aged eighteen. Pericardium tapped twice within ten days, then treated by insertion of small-sized drainage-tube.

On some Therapeutical Traditions.

The PRESIDENT read a short paper on this subject. [It will be found at page 1.]

DR. S. M. THOMPSON said he thought that the cured meat in which the poorer classes indulged was injurious on account of the considerable amount of nitrate of potassium in it. He found the question of dietary a very difficult one in the treatment of some patients affected with eczema.

DR. BEWLEY recalled a lecture delivered by Sir William Roberts at the opening of a medical society in Manchester some years ago. He had said that a great many doctors agreed in the drugs they prescribed for particular diseases, but when it came to diet nothing was more remarkable than the definiteness and diversity of their directions. A few diseases, such as diabetes and enteric fever, necessitated a particular dietary, but in the great majority of cases it was his practice to ask his patients: "Does such an article of food agree with you?" "Do you like it?" If it did we allowed them to have it in moderation. With these remarks Dr. Bewley concurred. He said there was a great difficulty in avoiding telling a patient to take what you yourself liked and not to take those things which you found to personally disagree with you.

DR. H. G. CROLY said that all his life he had suffered from gout in the form of psoriasis and dyspepsia. With regard to his gouty skin affection he had, thirty years ago, consulted the late Sir Dominic Corrigan and the late Dr. Stokes. They both advised him to let it alone. With regard to stone he drew attention to the remarkable fact that no one had yet been able to explain why the disease was so much more frequently met with in some districts than in others.

DR. PARSONS said that he thought the very common administration of iodide of potassium in lead-poisoning might be comparable to that of carbonate of lithia in gout. Iodide of potassium caused the appearance of lead in the urine, especially if given in large doses. Yet it was hard to understand this, remembering Berthollet's law that two substances which react on each other tend to the production of a more insoluble compound. Perhaps the "mass" theory to which the President had alluded might explain it. Could the President throw any light as to where the keratin-coated pills and capsules were dissolved, as they were not passed per anum?

DRS. ARTHUR BENSON and C. F. MOORE also joined in the discussion.

The PRESIDENT, in reply, said that he agreed with Dr. Thompson as to the injurious effect of nitrate of potassium. As regards diet he thought a healthy man might be defined as one who had a wide margin in the number of things he might eat and drink without their disagreeing with him, while a gouty man was one who had a very narrow margin. As regards the efficiency of the iodides in eliminating the heavy metals from

the system, he thought that Dr. Parsons' difficulty could be met by the fact that whereas iodide of lead was insoluble in cold water it was soluble in an excess of iodide of potassium or chloride of sodium. This might perhaps take place in the warm fluids of the body readily. With respect to the keratin-coated pills, he had not denied the fact that they were soluble, but had objected to the theory that they needed an alkaline fluid. The warm juices of the body were quite sufficient.

A Case of Small-pox and its Lessons.

DR. J. W. MOORE read the notes of a case, which will be found in Vol. XCVIII., p. 489.

The PRESIDENT asked the author did he purpose to attribute more than a subordinate part to the exclusion of light in the treatment of the disease. Some vaccination scars were well marked, though protected from light.

DR. A. N. MONTGOMERY asked Dr. Moore had his patient originally been vaccinated, and if so, what was the "number and quality" of the cicatrices? Had he been revaccinated, and if so, when? In those patients in whom the disease slurred over the pustular stage, had revaccination been performed?

DR. PORTER mentioned an outbreak which had occurred some years ago on a vessel in Cork. Some cases were treated on the main deck, and others on the lower deck, which was comparatively dark. The men on the lower deck did much better. Tincture of iodine had formerly been recommended to be applied to prevent scarring. He had applied it to a patient's face with the very best results.

DR. C. F. MOORE having also joined in the discussion,

DR. J. W. MOORE said his patient had never been revaccinated. There were two good scars on the left arm. Revaccination was very prevalent in Sweden, and it was highly probable the cases he referred to as having been treated in red light had been revaccinated. He thought that the tincture of iodine might keep out some of the actinic rays of the solar spectrum. In reply to the President, he stated that the special treatment in red light had for its object the lessening of the dermatitis, which was such a dangerous element in small-pox.

The Section then adjourned.

ANÆSTHETICS.

FROM statistics gathered by *Les Nouveaux Remèdes* we find that of 52,475 administrations chloroform was used 83,083 times; ether, 11,669; A. C. E. mixture, 3,896; Billroth's mixture, 750; bromide of ethyl, 2,986; nitrous oxide (dentistry), 91. Thus we see that chloroform was more frequently used than all the others put together.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.; F.R.C.P.I.;
F.R.Met. Soc.; Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS

For four Weeks ending Saturday, December 1, 1894.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns	Weeks ending				Towns	Weeks ending			
	Nov. 10.	Nov. 17.	Nov. 24.	Dec. 1.		Nov. 10.	Nov. 17.	Nov. 24.	Dec. 1.
Armagh -	7.0	21.0	35.1	14.0	Limerick -	25.3	29.5	25.3	22.5
Belfast -	23.0	23.4	20.7	22.7	Lisburn -	21.3	4.3	12.8	21.3
Cork -	26.3	21.5	24.9	22.8	Londonderry	12.6	29.8	22.0	20.4
Drogheda	4.4	17.6	8.8	8.8	Lurgan -	4.6	27.4	18.2	36.5
Dublin -	21.9	22.7	23.6	20.0	Newry -	12.1	12.1	32.3	20.1
Dundalk -	8.4	12.6	20.9	12.6	Sligo -	40.6	35.5	35.5	20.3
Galway -	15.1	60.5	26.4	11.3	Waterford -	22.5	17.5	37.5	22.5
Kilkenny	0.0	14.2	28.3	18.9	Wexford -	22.6	18.5	18.5	27.1

In the week ending Saturday, November 10, 1894, the mortality in thirty-three large English towns, including London (in which the rate was 15.0), was equal to an average annual death-rate of 16.9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 20.3 per 1,000. In Glasgow the rate was 21.8, and in Edinburgh it was 19.6.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 21.4 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1.7 per 1,000, the rates varying from 0.0 in twelve of the districts to 2.9 in Belfast—the 119 deaths from all causes registered in that district comprising 2 from scarlatina, 1 from whooping-cough, 2 from diphtheria, 1 from simple continued fever, 3 from enteric fever, and 6 from diarrhoea. The 18 deaths in Limerick comprise 1 from scarlatina and 1 from whooping-cough.

In the Dublin Registration District the registered births amounted to 221—120 boys and 101 girls; and the registered deaths to 153—78 males and 75 females.

The deaths, which are 24 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 22·8 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 21·9 per 1,000. During the first forty-five weeks of the current year the death-rate averaged 24·8, and was 2·4 under the mean rate in the corresponding period of the ten years 1884—1893.

Only 12 deaths from zymotic diseases were registered, being 14 below the average for the corresponding week of the last ten years, and 6 under the number for the previous week. They consist of 4 from small-pox, 1 from scarlet fever (scarlatina), 3 from whooping-cough, 2 from enteric fever, 1 from simple cholera, and 1 from diarrhœa.

The deaths from small-pox are those of 2 women, and of a girl aged 9 years, all of whom had "bad marks," and of a man aged 34 years who had not been vaccinated.

Thirty-seven cases of small-pox were admitted to hospital, being 9 over the admissions for the preceding week, and 22 over the number for the week ended October 27. Thirty-five small-pox patients were discharged, 4 died, and 81 remained under treatment on Saturday, being 2 under the number in hospital at the close of the preceding week.

The number of cases of enteric fever admitted to hospital was 20, being 1 over the admissions for the preceding week; 14 patients were discharged, and 82 remained under treatment on Saturday, being 6 over the number in hospital on Saturday, November 3.

The hospital admissions included, also, 12 cases of scarlatina, against 15 for each of the two weeks preceding: 5 patients were discharged; 2 died, and 71 remained under treatment on Saturday, being 5 over the number in hospital on the previous Saturday.

Twenty-five deaths from diseases of the respiratory system were registered, being 4 under the number for the preceding week, and 12 below the average for the 45th week of the last ten years. The 25 deaths comprise 14 from bronchitis and 9 from pneumonia or inflammation of the lungs.

In the week ending Saturday, November 17, the mortality in thirty-three large English towns, including London (in which the rate was 15·3), was equal to an average annual death-rate of 17·1 per 1,000 persons living. The average rate for eight principal towns of Scotland was 20·3 per 1,000. In Glasgow the rate was 22·6, and in Edinburgh it was 19·4.

The average annual death-rate in the sixteen principal town districts of Ireland was 23·2 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·3 per 1,000, the rates varying from 0·0 in nine of the districts to 15·1 in Galway—the 16 deaths from all causes registered in that district comprising 4 from measles. Among the 121 deaths from all causes registered in Belfast are 3 from measles, 1 from scarlatina, 1 from whooping-cough, 2 from diphtheria, 1 from simple continued fever, 3 from enteric fever, and 1 from diarrhoea. The 31 deaths in Cork comprise 1 from measles, 2 from diphtheria, 1 from simple continued fever, and 4 from diarrhoea. The 21 deaths in Limerick comprise 1 from typhus and 2 from whooping-cough.

In the Dublin Registration District the registered births amounted to 197—105 boys and 92 girls; and the registered deaths to 156—82 males and 74 females.

The deaths, which are 31 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23·3 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 22·7 per 1,000. During the first forty-six weeks of the current year the death-rate averaged 24·8, and was 2·4 under the mean rate in the corresponding period of the ten years 1884–1893.

Thirteen deaths from zymotic diseases were registered, being 1 over the low number for the preceding week, but 9 below the average for the corresponding week of the last ten years. They comprise 3 from small-pox, 1 from whooping-cough, 1 from diphtheria, 1 from simple continued and ill-defined fever, 2 from enteric fever, and 2 from diarrhoea.

The deaths from small-pox are those of a man who had “two fair marks,” of a woman who had not been vaccinated, and of a man aged 46 years in whose case there is no statement as to vaccination.

Twenty-five cases of small-pox were admitted to hospital, being 12 under the admissions in the preceding week, and 3 under the number in the week ended November 3. Ten small-pox patients were discharged; 2 died, and 94 remained under treatment on Saturday, being 13 over the number in hospital at the close of the preceding week.

Only 12 cases of enteric fever were admitted to hospital, being 8 under the admissions in the preceding week, and 7 under the number in the week ended November 3. Eight patients were discharged; 2 died, and 84 remained under treatment on Saturday, being 2 over the number in hospital on the previous Saturday.

The hospital admissions included, also, 20 cases of scarlatina, against 12 in the preceding week: 8 patients were discharged, and 83 remained under treatment on Saturday, being 12 over the number in hospital on Saturday, November 10.

Twenty-five deaths from diseases of the respiratory system were registered, being equal to the number for the preceding week, but 15 below the average for the 46th week of the last ten years. The 25 deaths comprise 7 from bronchitis, 11 from pneumonia or inflammation of the lungs, and 2 from croup.

In the week ending Saturday, November 24, the mortality in thirty-three large English towns, including London (in which the rate was 15·9), was equal to an average annual death-rate of 17·3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 21·3 per 1,000. In Glasgow the rate was 21·2, and in Edinburgh it was 23·3.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 23·0 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·3 per 1,000, the rates varying from 0·0 in seven of the districts to 21·0 in Armagh—the 5 deaths from all causes registered in that district comprising 2 from whooping-cough, and 1 from diarrhoea. Among the 107 deaths from all causes registered in Belfast are 1 from scarlatina, 4 from diphtheria, 1 from enteric fever, and 6 from diarrhoea. The 18 deaths in Limerick comprise 1 from scarlatina and 1 from diarrhoea. Among the 14 deaths in Londonderry are 1 from diphtheria and 1 from diarrhoea. The 15 deaths in Waterford comprise 1 from typhus and 4 from diarrhoea. The Registrar for Castlereagh No. 4 District, Belfast Union, remarks—"During the week I gave orders for the removal of a case of small-pox from this district to the Union Hospital."

In the Dublin Registration District the registered births amounted to 170—93 boys and 77 girls; and the registered deaths to 163—90 males and 73 females.

The deaths, which are 20 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 24·3 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 23·6 per 1,000. During the first forty-seven weeks of the current year the death-rate averaged 24·8, and was 2·4 under the mean rate in the corresponding period of the ten years 1884–1893.

Seventeen deaths from zymotic diseases were registered, being 4 over the low number for the preceding week, but 6 under the average for the corresponding week of the last ten years. They comprise 1 from small-pox, 1 from scarlet-fever (scarlatina), 1 from influenza, 3 from whooping-cough, 5 from enteric fever, and 4 from diarrhoea.

The death from small-pox was that of a man aged 34 years who had not been vaccinated.

Only 18 cases of small-pox were admitted to hospital during the week, being 7 under the admissions for the preceding week, and 19 under the number for the week ended November 10. Eighteen small-pox patients were discharged during the week, 8 died, and 91 remained under treatment on Saturday, being 3 below the number in hospital at the close of the preceding week.

The number of cases of enteric fever admitted to hospital was 14, being 2 over the admissions for the preceding week, but 6 under the number for the week ended November 10. Eleven enteric fever patients were discharged, 3 died, and 84 remained under treatment on Saturday, being equal to the number in hospital on the previous Saturday.

The hospital admissions for the week included, also, 24 cases of scarlatina, against 20 and 12 for each of the two weeks preceding: 18 patients were discharged, and 89 remained under treatment on Saturday, being 6 over the number in hospital on Saturday, November 17.

Twenty-five deaths from diseases of the respiratory system were registered, being equal to the number for each of the two weeks preceding, but 15 below the average for the 47th week of the last ten years. The 25 deaths comprise 9 from bronchitis, 12 from pneumonia or inflammation of the lungs, and 2 from croup.

In the week ending Saturday, December 1, the mortality in thirty-three large English towns, including London (in which the rate was 16·4), was equal to an average annual death-rate of 17·8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 21·4 per 1,000. In Glasgow the rate was 23·7, and in Edinburgh it was 18·1.

The average annual death-rate in the sixteen principal town districts of Ireland was 21·1 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 1·8 per 1,000, the rates varying from 0·0 in seven of the districts to 18·2 in Lurgan—the 8 deaths from all causes registered in that district comprising 1 from measles, 2 from scarlatina, and 1 from whooping-cough. Among the 117 deaths from all causes registered in Belfast are 2 from measles, 1 from scarlatina, 1 from whooping-cough, 1 from simple-continued fever, 2 from enteric fever, and 1 from diarrhoea. The 16 deaths in Limerick comprise 3 from scarlatina, and 1 from whooping-cough.

In the Dublin Registration District the registered births amounted to 213—108 boys and 105 girls; and the registered deaths to 142—68 males and 74 females.

The deaths, which are 49 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 21·2 in every 1,000 of the population. Omitting the deaths (numbering 8) of persons admitted into public institutions from localities outside the

district, the rate was 20·0 per 1,000. During the first forty-eight weeks of the current year the death-rate averaged 24·7, and was 2·5 under the mean rate in the corresponding period of the ten years 1884–1893.

Only 11 deaths from zymotic diseases were registered, being 6 under the number in the preceding week and 12 below the average in the corresponding week of the last ten years. The 11 deaths consist of 3 from small-pox, 1 from scarlet fever (scarlatina), 1 from influenza, 1 from whooping-cough, 2 from enteric fever, 2 from diarrhoea, and 1 from dysentery.

The deaths from small-pox are those of a female aged 17 years who had been vaccinated, and of a boy aged 13 and a female aged 19 years who had not been vaccinated.

Thirty-seven cases of small-pox were admitted to hospital, being 19 over the admissions in the preceding week, and 12 over the number admitted in the week ended November 17: 25 small-pox patients were discharged, 2 died, and 101 remained under treatment on Saturday, being 10 over the number in hospital at the close of the preceding week.

The present epidemic of small-pox in Dublin, though slight as compared with the great epidemics of 1871–73 and 1878–80, has naturally caused considerable alarm since its first appearance in July last. The deaths from this disease within the Dublin Registration District have, for each week from the 21st of July to the 1st of December, been respectively 1, 0, 1, 1, 3, 6, 0, 1, 2, 0, 2, 4, 2, 2, 4, 1, 4, 3, 1, and 3, making a total of 41 deaths, all except one of which occurred in hospital. The admissions to hospital during the same period have been 0, 4, 9, 26, 37, 14, 16, 16, 12, 13, 19, 8, 8, 28, 15, 28, 37, 24, 18, and 37 weekly.

The number of cases of enteric fever admitted to hospital during the week was 14, being equal to the admissions for the preceding week: 17 enteric fever patients were discharged, 1 died, and 80 remained under treatment on Saturday, being 4 under the number in hospital on the previous Saturday.

The hospital admissions for the week included, also, 12 cases of scarlatina, against 24 and 20 respectively for each of the two weeks preceding: 5 patients were discharged, 1 died, and 95 remained under treatment on Saturday, being 6 over the number in hospital on Saturday, November 24.

Twenty-eight deaths from diseases of the respiratory system were registered, being 3 over the number for the preceding week, but 19 under the average for the 48th week of the last ten years. The 28 deaths comprise 15 from bronchitis and 8 from pneumonia or inflammation of the lungs.

METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat 53° 20' N.,
Long. 6° 15' W., for the Month of November, 1894.*

Mean Height of Barometer,	-	-	-	29·850 inches.
Maximal Height of Barometer (on 30th, at 9 a.m.),	-	-	-	30·591 „
Minimal Height of Barometer (on 14th, at 2 p.m.),	-	-	-	28·904 „
Mean Dry-bulb Temperature,	-	-	-	46·8°.
Mean Wet-bulb Temperature,	-	-	-	44·6°.
Mean Dew-point Temperature,	-	-	-	42·1°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	-	·270 inch.
Mean Humidity,	-	-	-	84·3 per cent.
Highest Temperature in Shade (on 1st),	-	-	-	61·6°.
Lowest Temperature in Shade (on 30th),	-	-	-	34·3°.
Lowest Temperature on Grass (Radiation) (on 30th),	-	-	-	27·7°.
Mean Amount of Cloud,	-	-	-	58·7 per cent.
Rainfall (on 15 days),	-	-	-	1·482 inches.
Greatest Daily Rainfall (on 13th),	-	-	-	·399 inch.
General Directions of Wind,	-	-	-	W., S.W., and S.S.W.

Remarks.

November, 1894, proved an open, generally favourable month in the neighbourhood of Dublin. The first half was unsettled, squally, and showery, with a cyclonic type of weather predominant. The second half was mild, quiet, often cloudy and foggy—in a word, the anticyclonic type of weather ruled. The rainstorms of the 10th to the 17th were practically unfelt on the east coast of Ireland. Only once in the last thirty years has November been milder than in the present year—that was in 1881, when the mean temperature was as high as 50·3°, or 5·6° above the average, and 2·5° above that of the month now under review.

In Dublin the arithmetical mean temperature (47·8°) was decidedly above the average (44·7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 46·8°. In the twenty-nine years ending with 1893, November was coldest in 1878 (M. T. = 38·2°), and in 1870 (M. T. = 42·2°); warmest in 1881 (M. T. = 50·3°). In 1886, the M. T. was as high as 46·4°; in the year 1879 (the “cold year”) it was 43·9°; in 1887, it was as low as 42·6°; in 1888, it was as high as 47·5°; in 1889, it was 46·4°; in 1890, 45·3°; in 1891, 43·4°; in 1892, as high as 46·9°; and in 1893, 43·8°.

The mean height of the barometer was 29·850 inches, or 0·010 inch below the corrected average value for November—namely, 29·860 inches. The mercury rose to 30·591 inches at 9 a.m. of the 30th, having fallen to 28·904 inches at 2 p.m. of the 14th. The observed range of atmo-

spheric pressure was, therefore, 1·687 inches—that is, slightly less than one inch and seven-tenths.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 46·8°, or 2·4° below the value for October, and 6·1° below that for September, 1894. The arithmetical mean of the maximal and minimal readings was 47·8°, compared with a twenty-five years' average of 44·7°. On the 1st the thermometer in the screen rose to 61·6°—wind, S.S.W.; on the 30th the temperature fell to 34·3°—wind, W.N.W. The minimum on the grass was 27·7°, also on the 30th.

The rainfall was 1·482 inches, distributed over 15 days—the rainfall was considerably below, while the rainy days were also below, the average. The average rainfall for November in the twenty-five years, 1865–89 inclusive, was 2·452 inches, and the average number of rainy days was 17·0. In 1876 the rainfall in November was large—3·614 inches on 20 days. In 1872, also, 3·414 inches fell on 24 days; in 1887, 3·012 inches fell on 18 days; in 1888, 6·549 inches fell on 26 days; in 1890, 4·212 inches fell on no less than 27 days; in 1891, 2·911 inches fell on 15 days; in 1892, 2·404 inches on 19 days. On the other hand, the rainfall in 1889 was only ·929 inch on 9 days; in 1870, only 1·218 inches were measured on but 11 days; in 1879 only 1·251 inches on but 10 days; and in 1893, 1·870 inches on 17 days.

High winds were noted on 15 days, but attained the force of a gale on only two occasions—the 5th and 13th. The atmosphere was more or less foggy in Dublin on the 18th, 23rd, 24th, 26th, 27th and 30th.

A solar halo was seen on the 4th; lunar halos were seen on the 5th and 11th. Lightning occurred on the night of the 15th, and an aurora borealis on the 23rd. Neither snow nor hail fell.

Atmospheric pressure remained in a shifting, unstable condition throughout the first three days of the month, and copious rains, strong squally southerly winds, and high but unsteady temperatures made up the weather of the period. On Thursday, the 1st, the thermometer rose to 65° in the shade in London, being the highest reading there recorded in November since 1847, when 67° was reached. In Dublin the maximum on the 1st was 61·6°; that on the 2nd was 60·7°. On Saturday, the 3rd, a storm-centre passed swiftly northwards outside the west coast of Ireland.

The week ended Saturday, the 10th, witnessed a continuance of cyclonic conditions over North-western Europe, resulting in unsettled weather, with squally southerly to westerly winds, frequent rains or passing showers, high but unstable temperature, and fine, bright, dry intervals. Until Thursday the barometer stood high over France and Germany—30·10 to 30·20 inches—so that gradients were sometimes steep over the British Isles. On the day named a V-shaped depression existed over the North Sea, and accordingly the wind drew into N.W.

over great Britain, while it freshened from S. or S.E. in Norway, Sweden, and Denmark. During the last two days atmospheric pressure became generally low, and was unevenly distributed. In the vicinity of Dublin, alternate cloudy and bright spells occurred, but the weather was not unfavourable save as to its variableness. On Wednesday rain fell heavily over the south of England and in Wales in connection with the V-shaped depression already mentioned. In Dublin a solar halo was seen at 9 a.m. of Sunday, a lunar halo at 9 p.m. of Monday, and a lunar corona at 9 p.m. of Saturday. Owing to clouds, the Transit of Mercury was not seen from Dublin on the afternoon of Saturday. The mean height of the barometer was 29·647 inches, pressure ranging between 30·038 inches at 9 a.m. of Tuesday (wind S.W.) and 29·315 inches at 9 p.m. of Saturday (wind S.W.). The corrected mean temperature was 49·6°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 48·1°. On Tuesday the screened thermometers rose to 57·7°, on Thursday they fell to 41·1°. The rainfall was ·419 inch on six days, ·211 inch being measured on Thursday. The prevailing wind was S.W. Electrical disturbances occurred on Friday night and Saturday in several places.

Very disturbed conditions existed over North-western Europe throughout the week ended Saturday, the 17th, which will be especially memorable for a torrential rainfall in the S.W., S., and S.E. of England, and resulting in destructive floods in those districts. In Scotland, the N.E. of England, and the N. and E. of Ireland, the rainfall was moderate, and intervals of very fine, bright weather were enjoyed. On Sunday rather steep gradients for W. and S.W. winds existed. In the evening a lunar halo and corona of unusual beauty appeared. On Monday morning two atmospheric depressions were found with minima below 29 inches—of these, one was over Caithness, the other was near the Scilly Islands. Round the latter vortex the winds were strong to a gale, and torrents of rain were falling—at 8 a.m. the measurement at St. Mary's, Scilly, was 3·06 inches, and at Hurst Castle 2·02 inches. This system subsequently travelled up the English Channel and then across the North Sea to Denmark. Its passage was attended by violent gales, storms of rain, hail, thunder and lightning. The barometer fell to 28·75 inches at Hurst Castle. On Tuesday another even more extensive depression bore in upon the British Islands, causing a renewal of the rainstorm and gales. Its centre was near the Shetlands at 8 a.m. of Wednesday—the barometer reading at Sumburgh Head being only 28·59 inches. Again, the rainfall was immense over the southern half of England. In Ireland—except in the S. and S.W.—the weather now became very bright and cool, and so remained until Saturday, which was a cloudy, warm, squally day. In Dublin the mean atmospheric pressure was 29·365 inches, the barometer ranging from 28·904 inches at 2 p.m. of Wednesday (wind S.W.) to 29·881 inches at 9 p.m. of Saturday (wind S.) The mean temperature

was 45·9°. On Tuesday the screened thermometers fell to 35·7°, on Saturday they rose to 56·9°. The rainfall was ·469 inch, ·399 inch falling on Tuesday. The prevailing winds were S.W. and S. The largest amounts of rain recorded at any individual stations during the week were 6·25 inches at Godmanstone (near Dorchester), 5·51 inches at Scilly, 5·13 inches at Killarney, 4·70 inches at Falmouth, and 4·60 inches (in six days) at Crowborough, Sussex.

“After a storm comes a calm”—this would be a pithy way of comparing the weather of the week ended Saturday, the 24th, with that of its predecessor. The gales and rain ceased, and a growing tendency to anticyclonic conditions showed itself as the period advanced. On Sunday a V-shaped depression lay over Ireland, where rainy but finally quiet weather prevailed. At night the sky was clear, and temperature fell fast, but only for a short time, for on Monday it again became extremely mild. This change was succeeded by a considerable rainfall, amounting to six-tenths of an inch or upwards in the extreme S.W. and N.W. of the country. Bright aurora was reported on Sunday night from Wick in Scotland, and Roche’s Point in Cork. The display was again seen on Monday night at Wick; and on Friday night also a brilliant aurora was seen in Ireland, Scotland, and Sweden. On and after Wednesday an anticyclonic band stretched westwards from Central Europe to the southern parts of the British Islands. The wind fell light in consequence, having blown a fresh gale from S.W. in Ireland and the Irish Sea on Wednesday night. The atmosphere also became hazy and thick and fogs formed in many places. On Friday morning the distribution of temperature was most irregular—at 8 a.m. the thermometer read 51° at Holyhead, Pembroke, and Scilly; only 36° at Valentia Island, 34° at Donaghadee, and 33° at Parsonstown. Saturday was a fine day with an easterly breeze. In Dublin the mean height of the barometer was 30·174 inches, pressure ranging from 29·917 inches at 9 a.m. of Sunday (wind S.S.E.) to 30·887 inches at 9 p.m. of Friday (wind W.). The mean temperature was 47·4°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was also 47·4°. On Thursday the screened thermometers rose to 56·8°, having fallen to 38·2° during Monday night. The rainfall was ·300 inch on four days, ·150 inch being measured on Sunday. The prevailing winds were S.S.E., S.S.W., and W.

The tendency to anticyclonic conditions observed in Western Europe during the previous week persisted throughout the period from the 25th to the 30th, inclusive, and except in the far North quiet, fine weather prevailed. Temperature was often above the average for the time of year, but local frosts were felt in different parts of the inland districts of our islands, while more decided and extensively distributed frosts occurred in France and Germany. Until Tuesday, the 27th,

the area of highest pressure was found over the south of Scandinavia and of the Baltic, in which regions the barometer stood at between 30·70 and 30·80 inches. On the morning of the day named a separate centre of high pressure formed over Ireland, accompanied by a sharp frost inland—the thermometer receding to 25° at Parsonstown, King's Co. At this time the barometer was falling in the extreme N.W. and N., as a large depression approached Norway from the westward. This disturbance caused a general rise of temperature in the British Islands on Wednesday afternoon, the atmosphere became soft and damp, and the wind freshened with light showers at many stations. As this low pressure area travelled eastwards, the barometer rose again, the wind fell light and drew into northerly points, and temperature gave way quickly. Fog and frost set in on Friday, but the amount of cloud checked radiation to a large extent and only local frosts under clear skies were recorded. In Dublin the extreme readings of the barometer were—highest, 30·591 inches at 9 a.m. of Friday (wind, W.N.W.); lowest, 30·297 inches at 9 a.m. of Sunday (wind, S.E.). On Sunday the screened thermometers rose to 52·3°. On Friday they fell to 34·3°. The prevailing wind was westerly. There was no measurable rainfall.

The rainfall in Dublin during the eleven months ending November 30th, amounted to 27·750 inches on 191 days, compared with 15·378 inches on 141 days during the same period in 1887, 25·768 inches on 173 days in 1888, 25·718 inches on 178 days in 1889, 25·706 inches on 189 days in 1890, 24·521 inches on 163 days in 1891, 24·849 inches on 186 days in 1892, only 18·011 inches on but 155 days in 1893, and a twenty-five years' average of 25·292 inches on 177·4 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in November, 1894, was 3·495 inches distributed over 14 days. Of this quantity ·725 of an inch fell on the 13th, and ·795 of an inch on the 17th. From January 1st, 1894, up to November 30th, rain fell at that station on 168 days, and to the total amount of 35·716 inches. The corresponding figures for 1893 were 19·586 inches on 150 days.

At Cloneevin, Killiney, Co. Dublin, 1·58 inches of rain fell on 13 days, compared with a nine years' average of 2·861 inches on 18·11 days. The maximal fall in 24 hours was ·26 inch on the 13th. Since January 1st, 1894, 30·96 inches of rain have fallen at this station.

ARGENTAMIN.

SCHERING (*Ap. Ztg.*) has succeeded in producing a salt of silver which will not precipitate albumen from solution, and which is of great therapeutic value for the treatment of hæmorrhages. The salt known as argentamin is obtained by adding 10 parts of the phosphate of silver to a 10 per cent. solution of ethylène-diamin.—*Les Nouveaux Remèdes*, No. 11.

PERISCOPE.

THIOFORM.

THIOFORM is a salt of bismuth and acid dithiosalicylic, and contains, as a consequence, bismuth, sulphur, and salicylic acid. It is a powder of a dull yellow colour, very light, odourless, tasteless, insoluble in water, alcohol, and ether. The antiseptic action is due, without doubt, to a concentrated solution of dithion which forms in the secretion of the wound immediately after its being sprayed with thioform. According to Hueppe a twenty per cent. solution of dithion kills the spores of charbon bacteria in forty-five minutes. The action of the antiseptic when used as a surgical dressing is to dry the wound quickly, which action increases its antigermicide value, and makes it serviceable for burns, which rapidly and certainly heal under its use. The same excellent results in the treatment of ulcers of the ankle were obtained from its use by J. J. Schmidt, particularly indolent ulcers; granulations took on a healthy action, and a new growth of skin spread rapidly from the circumference to the centre until the whole sore was healed. In chronic rectitis in a woman fifty years old thioform was given internally in 0.3 gramme doses, three times a day for fourteen consecutive days. After the third day the tympany diminished and the stools became regular. It has the inconvenience of causing eructation.—*Les Nouveaux Remèdes*, No. 11.

CHLORIDE OF ZINC CAUSING DEATH.

M. JEANUEL assisted M. Lannelongue in the treatment of tuberculosis of joints by injections of chloride of zinc. A girl, six years old, had injected into her knee-joint twelve injections of a ten per cent. solution, the amount of each varying from two to eight drops. Two days after the child had swelling and cedema of her big toes, and pain in her feet. The following day she was worse, and finally the knee-joint burst, a clot of blood was thrown out, followed by profuse bleeding, and the child died. The autopsy showed a rupture of the femoral (popliteal) artery from an ulcer caused by chloride of zinc.—*Les Nouveaux Remèdes*, No. 11.

SPHACELOTOKIN.

IN 1884, after isolating cornutin, Dr. Kobert, of Dorpat-Youriew, found a substance remained in the ergot which had the power of causing contraction of the uterus and spasmodic contraction of the arterioles. He considered it to be an acid substance, and named it "acide sphacelinic." Later investigations have shown that the so-called acid is an admixture of several chemical bodies; from these Dr. Jacobi, of

Strassburg, has separated an alkaloid to which he gives the name "sphacelotoxin." This alkaloid is a powder of a yellow colour, insoluble in water, but soluble in ether, chloroform, alcohol, and alkaline solutions. Dr. Freund, of Strassburg, in his obstetric cases has found sphacelotoxin to produce similar effects to ergot. The doses he employed varied from 0.04 gramme to 0.10 gramme. The action commences in a few minutes, and attains its maximal intensity in half an hour. A solution in glycerine and alcohol is prepared for hypodermic use—it is very effective, and does not irritate the tissues.—*Semaine Médicale, Les Nouveaux Remèdes, No. 11.*

LACTOPHENIN.

LACTOPHENIN is phenacetin: in the group, acetyl is replaced by the group lactyl. It is a white fine crystalline powder, with an agreeable bitter taste, soluble in 330 parts of water. Dosage: 0.6 gramme, three times a day. The maximal dose is 1 gramme three times daily. It acts as an analgesic in neuralgia, and in full doses as a hypnotic. It gradually reduces temperature, which remains low for a long time. In typhus fever it calms the excitement, stops delirium, and produces sleep, and in typhoid is credited with cutting short the fever.—*Les Nouveaux Remèdes, No. 11.*

METHYL-BLUE AND EPITHELIOMA.

DR. DARIER, in a communication to the Academy of Medicine of Paris, reports the success of Dr. Mosetig, of Vienna, with the methyl-blue treatment of cancers, though M. Dentu has not with methyl-blue obtained cures. The author relates a series of cancerous tumours of the face cured rapidly by the daily application of a twenty per cent. solution of the drug. He considers the drug to have a specific action on cancer. A daily touching of the sore with the solution will effect a cure; but the good result will be more quickly produced by cauterising the carcinoma with chromic acid or the galvano-cautery. For deep-seated carcinoma he recommends the solution to be hypodermically injected. Tumours whose surface is broken should be covered by a healthy skin-flap on or about the fifteenth or twentieth day after treatment commenced. Dr. Darier presented to the Academy a patient who had had epithelioma of the left eye, and was then quite free of the disease, its site being marked by a cicatrix. This was the ninth case the doctor had thus treated, and with success in all.—*Les Nouveaux Remèdes, No. 11.*

METHYL-BLUE FOR CANCER.

At a meeting of the Medical Society of Vienna M. von Mosetig-Moorhof presented a woman, fifty-two years old, who had been suffering from carcinoma of the gall-bladder. The abdomen was opened, as was also the fundus of the gall-bladder, where a soft carcinoma was found almost

filling the cavity, and extending into the bile duct. The mass was scraped away, and the viscus washed out, the bleeding being stayed by plugging with gauze. On the removal of the gauze the viscus was washed out with a twenty per cent. solution of methyl-blue, and a crayon of the same introduced into the bile duct. Under treatment the patient gained flesh, slept well, ceased to suffer pain, had a good appetite, and bile flowed more freely.—*Les Nouveaux Remèdes*, No. 11.

DIPHTHERIA.

M. MOIZARD reports the good effects produced by swabbing the tonsils in diphtheritic cases with a 20 per cent. or 30 per cent. solution in glycerine of corrosive sublimate. He has successfully, as has his colleagues, used the application in Trousseau's Hospital, Paris, in a large number of cases. Great care must be taken that none of the solution runs down the child's throat or is dropped in the mouth.—*Les Nouveaux Remèdes*, No. 16. [Swabbing a child's throat, we know from experience, is not at all times a simple or easy matter. We would suggest that cotton wool rolled on the point of a thin pen-handle be used, and not a camel-hair brush.]

PHENOCOLL.

Riforma Medica writes of phenocoll:—(1) It is a more powerful anti-malarial remedy than quinine. (2) It is useful in active and chronic rheumatism. (3) It is of signal service in children's diseases. (4) It is a good intestinal antiseptic. (5) Its antineuralgic property is the least of its many therapeutical values.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Iodide of Iron Pills. Exalgin.

M. BLANCARD, a well-known pharmacist of Paris, has long enjoyed a reputation for the excellence of his preparations, and his syrup of iodide of iron is deservedly esteemed. He sends us a sample of his iodide of iron pills, which appear to be beautifully made, and calculated to keep well, although ferrous iodide is so unstable a salt. Each pill contains 1 gr. of ferrous iodide, and is coated with a balsamic envelope which includes $\frac{1}{2}$ gr. of reduced iron.

M. Blancard has also forwarded 2 preparations of exalgin. One consists of compressed tabloids, each containing 0.05 cgm., and the other is a sherry-coloured liquid of agreeable flavour. The dose is one teaspoonful, and the drug has proved very useful in various forms of neuralgia. One tablespoonful of the solution of exalgin=4 tabloids.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. V.—*Some Thoughts on the Method of Relieving an Obstructed Bowel.** By W. THORNLEY STOKER, President, R.C.S.I.; Surgeon to the Richmond Hospital.

It is the privilege of the President of this Section to address the members at its opening meeting on some matter of surgical interest, and it is an occasion when one may fairly be excused if he elects a topic to which he can apply his experience, rather than one of the novel and obscure subjects in which the theorist delights to revel, and which capture the intellect rather than deal with every-day incidents of our surgical life.

I do not intend to go far afield for material, because it seems to me that the importance of facts is to be measured by their commonness, and that just as the dignity of labour overshadows the greatness of kings, so the most frequent incidents of our surgical life throw the curiosities and rarities of our science into the shade. Common surgery means universal surgery, and implies that which may be cultivated to the greatest good of the greatest number. What Tennyson has called "the falsehood of extremes" is one that creeps very insidiously into the daily life of the enterprising surgeon. There is a tendency to argue from extreme or rare and individual cases, and to lose sight of broad and collective issues. How often we see elaborate and able papers written with

* The Presidential Address delivered at the opening of the Surgical Section of the Royal Academy of Medicine in Ireland, Session 1894-95.

a view to deduce a theory or a practice from a particular and eccentric instance, and the paucity of material concealed by an overshadowing cloud of science condensed from the literature of half a dozen modern languages. This "paper-making" or encyclopædic style is destructive to a fine cultivation of our science, but is a less evil than that which it conceals—the undue craving after originality. Every second surgeon wants his name connected with an operation or an instrument, and in this age of hot and unwholesome competition the hunger is disastrous to the quiet and perfect digestion of abundant material which waits on normal appetite.

As far as my sight reaches I can see no direction in which the craving for novelty and originality has caused men to overstep themselves more than in the operations undertaken so often and with such a light heart for the relief of some forms of obstruction of the bowel. The hateful expression that "there is practically no danger in opening the peritoneum" is ever before the reader in these days, and, as regards a class of cases I wish to speak of, a more false or poisonous teaching was never promulgated.

It is more than five years since I read before this Section of the Academy a paper "On the Treatment of Acute Intestinal Obstruction due to Collections within the Lumen of the Bowel," and I am here now to repeat with every force I can, and with what added weight time, experience, and the position I now hold may give to my words, the doctrines I then enunciated.

Do not let anyone misunderstand me—although I hold that we live in a time when there is too free a resort to operation in general, and although we may look for a subsidence of the wave and a return to a normal level—yet I have no cry to raise against the general advance of the operative treatment of the bowel—that would be foolish as well as futile. I have no word to say now against laparotomy in any class of cases save one, and even in that class I make no wholesale condemnation, but only urge that it shall be adopted after grave consideration and in selected instances. My remarks do not apply to obstruction due to neoplasms growing in the substance of the bowel, or to pressure on it by peritoneal or intra-peritoneal material; but to those very common cases in which, owing either to an atonic intestine failing in its peristalsis, or a normally strong one becoming overloaded by its contents, the balance between the propulsive power of the bowel and the load it has to move

is destroyed. The result is the decreasing power of the gut, its extreme distension, and the production of the condition named *ileus paralyticus*. We seldom see these cases until they have arrived at an advanced stage, until great abdominal distension has taken place, and until the issue is very evidently one of much gravity.

I have seen a great number of such cases in my own practice and in that of others, and I wish to reiterate the opinion I have already expressed that laparotomy is in them an extremely fatal operation, and should be undertaken only when other legitimate means have been exhausted, or where they are evidently improper owing to the advanced stage or general condition of the case. To formulate rules as to when or in what conditions such an operation might be undertaken is not possible except to the book-surgeon. The man who has practical experience knows that abdominal surgery cannot be reduced to a formula, and it is long experience and the tact which may be cultivated, but cannot be conferred, that teach us when we must and may open the abdomen in *ileus paralyticus*. To be sure, even the most skilled may fall into the error of delay, and there is no case so surrounded by doubtful problems as that of which I am speaking.

As regards antecedent treatment I have not much to add to, and nothing to subtract from, what I have already urged in the paper I have quoted.

Of the ordinary local measures, such as the application of heat and rubefacients, I have a growing dread. I have never seen them doing substantial service, and I have repeatedly witnessed their production of such superficial redness and inflammation as served to obscure diagnosis and increase the dangers of operation. If poultices or massage be employed they should be used in such a degree as to soothe or stimulate, but not to produce irritation.

Of the value of belladonna, if used freely and early in the case, I still hold a favourable opinion, and I am convinced that its best therapeutic effect is obtained by administering it if possible uncombined with opium. I have nothing to take from, or add to, the ideas I have already expressed about this drug. Its action is understood, and its administration logical. It relieves pain, while it does its work. It finds its chief use in those cases of peristaltic paralysis due to tympanites or fæcal

accumulation, and as these are most often seen in obese persons, and are attended by great meteorism—both conditions which render operation extremely dangerous—this drug is often an alternative with the knife. It should be given in full and repeated doses, and pressed until it shows its constitutional effect by producing either dilated pupil or dryness of the throat. The latter symptom is that most usually seen. It is perfectly useless employing this drug unless it be administered to its full extent. It may generally be combined with calomel. It is remarkable that whereas the tolerance of belladonna when given in chronic obstruction is very variable and its employment requires caution, it is extremely well borne in acute cases. The weak and impeded heart which is present in so many examples of acute obstruction is materially aided by the use of belladonna, which is a most excellent cardiac stimulant.

Of opium itself I still have a respectful terror; it masks symptoms so much that it is capable of being a very destructive agent. Nothing but severe pain indicates its use, and in view of the vomiting which is generally present, it is best employed in the form of morphine, and best administered by the hypodermic method.

Of the early employment of purgatives I am even less afraid than formerly, but I have somewhat modified my opinion as to the best drug to use. While I have not relinquished calomel, I rarely employ it except in combination with belladonna. I have a growing fondness for salines. I generally use the sulphate of sodium, and give it in hourly doses of one or two drachms until an ounce or more has been administered. The worst that can result from the use of a cathartic that fails to purge is disturbance of the stomach, and this unhappily is such a usual incident of these cases that it is of less moment than it otherwise would be. The difficulty of giving a purgative is often very great on account of the vomiting which exists, and in such cases their administration by the rectum is occasionally successful. Before using a purgative in this way the rectum should always be washed out with warm water. The greatest therapeutic *desideratum* of our day is a method of catharsis by hypodermic medication; and whoever can discover a purgative capable of this mode of introduction will have done as much for humanity as Jenner or Simpson. Nothing is more perplexing than the problem of how to purge a patient whose stomach rejects everything that is introduced into it.

Of all the points in the treatment of an overloaded or paralysed bowel there is none on which my convictions remain stronger, or in which, pleasant to relate, I have seen more improvement in method than in the use of the long enema tube. I have spoken in no uncertain fashion of the uselessness and danger of that instrument called "O'Beirne's tube," all the more awful because it was—and, I fear, still is—the custom to teach that it is safe, and its employment so free from danger that even unskilled persons may use it. Mr. Treves was, perhaps, the first writer to cast discredit on this hoary impostor. It is not enough to recognise its danger unless we also admit its comparative uselessness. Life may be destroyed by it. It is rigid enough to perforate the bowel; and I know cases in which this result has, by a little untrained energy, been achieved. I will undertake to perforate the coats of any average rectum with an ordinary gum elastic long tube, such as is usually supplied by instrument makers; and what can be done may be done, if either enough will or sufficient ignorance be present. So much for its danger; what of its uselessness? I contend that no mechanical effect can be gained by the introduction of fluid into the bowel which is not possible with an instrument 9 or 10 inches long, assisted by the natural penetrating quality of water, by gravitation produced by the posture of the patient, and such gentle pressure as that afforded by the use of a tube to which I shall presently refer. The absurdity of supposing that a pipe can be passed through the sigmoid flexure must be evident to those acquainted with the anatomy of that bowel; and the obvious explanation of the instances where, on external examination, it seems to have been done, can be a difficulty only to the tyro in the dissecting-room or dead-house. The length of mesentery possessed by the sigmoid bowel will often permit it to be pushed into the upper zone of the abdomen by the intrusive instrument. Nor must we overlook the danger of the force with which an injection can be introduced by the powerful pump usually employed with the long tube. I have seen a bowel which had been ruptured with fatal effect by this agency alone. As regards the use of medicaments other than water, and supposed to be solvent—such as oil or ox-gall—I disbelieve in their efficacy. They have no effect except whatever moral one they may exercise on the patient or his friends. All that can be done, can be best done by warm water alone.

For some years past I have used but two instruments for giving enemas. One is an ordinary Higginson's syringe, to the nozzle of

which a No. 12 or 14 red rubber catheter has been attached. For the daily purposes of the rectal toilet, or in cases where the injection is to be retained, or ejected by natural effort, this will be found perfect. It is absolutely safe, and quite painless. It can be used in the most tender infant or the most callous adult; and in instances where injection is called for in the presence of inflamed piles, it is a blessing without any disguise.

The second instrument is an ordinary red rubber tube $\frac{1}{4}$ to $\frac{1}{2}$ of an inch in diameter, such as is used for washing out the stomach. It is convenient to have circles marked at 3, 6, and 9 inches from its extremity, so as to know what length of it lies in the rectum. A large funnel should fit the dilated extremity and should be transparent, so as to allow the fluid, which is being introduced, to be seen. I have found a celluloid funnel more convenient and portable than one made of glass.

The patient lies on his back or left side with the pelvis raised, so as to facilitate the passage of fluid into the sigmoid and descending colon. The only fluid that should be used is warm water, and 8 or 10 gallons of it may be employed at one sitting. The surgeon sits on the right of the patient's bed, introduces the end of the tube, and retains it in position with his left hand, while with his right he holds the other end of the tube, into which the funnel is inserted. The tube is introduced 3, 6, or 9 inches, as may be indicated, and should be occasionally moved up and down in the anus by the left hand. An assistant pours water into the funnel, and the pressure may be varied and adjusted by the height to which it is raised by the operator. The left hand can be used at any moment, when the pressure in the rectum becomes painful, to pinch the tube, and stop the flow. When as much water has been introduced as can be borne, the funnel is removed, that end of the tube lowered to a basin placed on the floor, and the fluid allowed to run out of the bowel. By repeated operations of this kind large quantities of water may be used, and the bowel emptied without the patient being exhausted by straining or by the necessity of changing his position. The solution of fæces and expulsion of flatus are assisted by the pushing in and out of the tube which I have indicated, and by the varying hydrostatic pressure, caused by alternately raising and lowering the funnel at the free end of the tube.

The advantages of this method over older ones are as follows:—

1. The tube is soft and cannot cause injury.

2. The fluid pressure can be regulated to a nicety, and cannot be made excessive; as if undue pressure threatens, regurgitation into the funnel takes place.
3. Enormous quantities of water can be used.
4. The currents created by alternating hydrostatic pressure have a powerful solvent effect on the fæces.
5. The operation necessitates no exertion on the part of the patient, no change of position, and can be carried on for a long time without causing exhaustion.

I trust I may be excused for entering into a detail of this kind in the presence of so many accomplished surgeons; but there are many young ears present into which my words may pass. I cannot but regard this apparently simple procedure as one of the greatest improvements which has been introduced into the treatment of bowel obstructions. I have avoided many laparotomies by employing it, and I believe have seen a number of lives saved. Like all other surgical practices, it gains value by experience; but I am convinced that those who patiently employ it will esteem it as highly as I do; and I earnestly urge on my younger colleagues the abandonment of the old rigid tube and the adoption of the simple rectal armament included in the two instruments I have spoken of.

It is not alone in cases of fæcal obstruction that this method finds its use. In every instance where it is sought to unload the bowel it will be found of service. It may be used with excellent effect in the paralysis of peritonitis, and will, in that difficult case, produce evacuation where other means have failed. As a method of unloading the intestine in chronic obstruction, preparatory to operation, its value also expresses itself.

There is no organ of the body which requires more tender treatment than the bowel, and none which is so often left to be dealt with by the unskilled or uneducated. Many surgeons delegate the use of the enema to an assistant, as if this potent engine were unworthy of their own attention, and many who use it employ undue force. "No force" should be the postulate of our work with the intestine. We cannot be too persuasive, and it is because so much bad practice with regard to the use of the enema is followed, that I have ventured on such an occasion as this to urge my views against the use of a rigid tube, and to plead for one which has both complete safety and infinite advantage in point of merit. I offer you no weary list of cases, because, after all, they

are useful only to substantiate opinion, and if you cannot accept a man's deliberate opinion you are not likely to put faith in his cases. Cases can be twisted to prove anything. In such a position as that which, by the kindness of the Fellows of this College, I occupy, a little dogmatism may be excused, and I feel so strongly about this matter of the tube that I have ventured to deal with it in preference to some more brilliant or alluring topic. I beg you to believe that if I speak forcibly it is because I feel conviction, and when I argue for the total abandonment of the older form of tube I desire to assure you that any words I use are spoken with a full recollection of the gravity which my office attaches to them.

Of course the great difficulty to be overcome in acute obstruction is that of diagnosis, and even to the most experienced no finality is possible. There is no branch of surgery in which extended clinical observation and careful reasoning work better together. A simple process of logic will help the most trained clinician to a true conclusion. No cases afford more opportunity for the display of high surgical qualities than those of which I have spoken. Given the proper faculties of observation and deduction, the two qualities which combine to produce great surgical fitness are Thoroughness and Resource, and in the management of obstruction of the bowel there is the most ample opportunity for their development.

ART. VI.—*The Surgery of Hypertrophied Prostate.** By THOMAS EAGLESON GORDON, M.B., B.Ch., Univ. Dubl.; Assistant Surgeon to the Adelaide Hospital; Demonstrator in the School of Anatomy, Trinity College, Dublin.

THE subject I have chosen for my Address is the Surgery of Hypertrophied Prostate. It will, however, be convenient, in the first instance, to briefly review what is known of the development, anatomy, and function of the normal gland—as far at least as these are of surgical interest or importance.

If the abdomen of an early embryo is opened there will be seen, on either side of the middle line, in the lumbar region, two long vascular prominences. These are the Wolffian bodies—structures

* The Presidential Address to the University Biological Association, delivered on Thursday, November 29, 1894.

composed of glomeruli and tubes similar to those found in the permanent kidney.

Leading from the Wolffian bodies there will be seen the Wolffian ducts, and these pass downwards to open into the urogenital sinus.

This sinus is merely the lower portion of the spindle of the allantois; the upper part of the spindle, it will be remembered, forms the urinary bladder.

Lying internal to the Wolffian body is another structure, the genital organ; and coursing downwards, alongside the Wolffian duct, is the duct of Müller, which opens like it into the urogenital sinus. The lower part of the duct becomes fused with its fellow to form a single tube. The upper end is open into the peritoneal cavity.

These structures—Wolffian body and duct, genital organ, and duct of Müller—are the rudiments of nearly all the future genital system of both sexes. In the male, the testis is developed from the genital organ; from the Wolffian body and its duct are derived the vasa efferentia tube of the epididymis and vas deferens.

The urogenital sinus becomes the first portion of the urethra. The ducts of Müller undergo atrophy almost to annihilation. But their upper part persists as the hydatid of the epididymis, and the extreme lower united parts are represented in the uterus masculinus or prostatic vesicle. Very different is the fate of the duct of Müller in the female. Here the upper part remains as the Fallopian tube, and the remainder, the united part, forms the uterus and vagina.

It will thus be seen that the uterus masculinus must be the homologue of the uterus and vagina, or of some parts of them. It seems to be the opinion of the best modern embryologists that it is most probably the homologue of the vagina alone.

The development of the prostate itself has been lately specially worked out by Griffiths of Cambridge. The conclusions he arrives at are these—The tubules are derived from the prostatic sinuses on either side of the verumontanum—i.e., from that portion of the urethra which, as we have seen, is formed from the urogenital sinus.

As the tubes extend backwards they carry with them a prolongation of the external circular fibres of this part of the urethra, and this muscular tissue is seen in the foetus spread out in slender fasciculi investing the developing tubes.

As the gland grows, it extends outwards and forwards, but the glandular part, as a rule, does not fuse in the middle line, the continuity of structure being effected by muscular tissue only.

The prostate, it will then be seen, has no developmental connection with the ducts of Müller. The uterus masculinus is no part of the prostate, but merely becomes imbedded in it in its lateral and forward growth. The prostate is not the homologue of the uterus, and we have seen that even the uterus masculinus is probably the homologue, not of the uterus but of the vagina only.

I need occupy only a very few minutes in describing the adult gland, particularly as I have some lantern slides to show, which, with Professor Cunningham's kind permission, I have been enabled to obtain from his frozen sections of the pelvis.

The prostate is composed of gland and unstriped muscle, the latter forming nearly three-fourths of the whole. The glandular part is made up of branching tubes, ending in tubular alveoli lined with columnar epithelial cells.

The average weight of the normal gland is about six drachms. It measures in its long axis, which is nearly vertical, about one and a-quarter inches, and it is about one and a-half inches in width. In form the prostate is roughly conical, and is usually described as having three lobes. The existence of the middle lobe has been questioned, but Griffiths has shown that it certainly does exist in a considerable number of cases. The base of the prostate rests against the bladder, about the internal urethral orifice. The term neck, as applied to this region of the bladder, is objectionable, as no constriction occurs about the urethral opening such as this term would seem to imply. The urethra traverses the gland at about its centre, and I would remind you that this portion of the urethra is almost vertical in direction. In front the prostate is separated from the lower part of the symphysis by a distance of about three-quarters of an inch, and behind is in close relation with the second part of the rectum. It is placed at a much higher level in the pelvis than is, I think, usually appreciated, its base being opposite some point on the upper half of the symphysis.

The gland is firmly fixed in position by the fascial connections of its capsule, so that it only sinks to a slight extent when the bladder is distended. If it is desirable to overcome the slight fall, for operative purposes, it can be prevented by a moderate distension of the rectum. The presence of this fixed support about the orifice of the urethra will easily explain the occurrence of a post-

prostatic pouch when there is any cause of obstruction to the urinary outflow. In prostatic cases it will, of course, attain its greatest degree, because the sinking of the bladder behind the urethral orifice will be accompanied by a raising of the orifice itself, depending on the upward direction of the enlargement.

Within the capsule is the prostatic venous plexus. These veins become dilated and varicose in old age, and their valves disappear. Immediately beneath the mucous membrane of the urethra there is another smaller plexus which undergoes similar changes. These veins communicate freely with hæmorrhoidal and other veins in the neighbourhood, and this fact, taken in conjunction with the absence of valves, explains the frequent congestions of the prostate—congestion which is sometimes sufficient to cause complete retention. The varicose submucous plexus is of interest as explaining the occasional occurrence of severe hæmorrhage after the passage of instruments in these cases. Although surrounded in this way by venous plexuses, the blood-supply of the prostate itself is remarkably small, and, unless the venous plexuses are encroached on, large portions may be removed without causing severe hæmorrhage.

The most important point to be determined in connection with the function of the prostate is whether it is or is not essentially a sexual organ. The solution of this problem has been arrived at by observations of prostatic changes in certain of the lower animals, which have distinct periods of sexual rest and sexual activity.

These observations were first made by John Hunter many years ago. He writes as follows:—"In the mole the prostate gland in winter is hardly discernible, but in the spring becomes very large and filled with mucus." This fact was confirmed by Sir R. Owen, and during the last few years by Griffiths. Griffiths' observations are of particular interest, since they include microscopic examinations. I need not delay to describe them in detail. Suffice it to say, that they fully confirm John Hunter's early observations—that they show that the prostate undergoes an enormous increase in size during the breeding season, and that this increase is accompanied by important changes in the shape and number of the epithelial cells lining the gland tubes, and by equally marked changes in the muscular stroma. These interesting facts, I think, conclusively show that the functional activity of the prostate in these animals is closely dependent on the functional activity of the testes, and

this relationship would seem to justify us in regarding the prostate as an accessory sexual gland.

This conclusion has received confirmation from the effects on the prostate which have been observed to follow castration in many animals. In Hunter's works the following statements occur:—"The prostate and Cowper's glands, and those of the urethra in the perfect male, are soft and bulky, and the secretion salt to the taste. In the castrated animal these are small, flabby, tough, and ligamentous, and have little secretion. Especially marked is this change when the animal is castrated when young." These observations have received striking confirmation by Griffiths and White, and it has now been absolutely proved that the prostate will undergo atrophy whether the animals are castrated when young or when they have attained to adult age. The experiments conducted for White are particularly interesting.

The average weight of the prostate was first determined by experiments on 35 dogs. Taking the average weight in dogs weighing 14 to 16 kilos. as 15 grammes—in one case, 17 days after castration, the prostate was found to weigh only about $5\frac{1}{2}$ grammes instead of 15. In another dog, in which the average weight of prostate relative to its weight was 19 grammes, it weighed only $2\frac{1}{2}$ grammes about a month after castration. There were, in all, twenty-four experiments performed, and in every case the results were equally remarkable. Microscopic examinations were made in each, and showed atrophy of both glandular and muscular elements.

The prostate is then undoubtedly a sexual organ, and recent experiments tend to show that it is not only accessory but essential to fertilisation. This fact has been proved by experimental removal of the prostate. In the animals so treated the power of copulation remained, but they were incapable of reproduction of their species. Such being the case in the lower animals, one might, with tolerable safety, conclude that the prostate has a like function in man, and that castration would lead to either non-development or atrophy. The direct evidence is, unfortunately, very unsatisfactory, and is almost confined to the case of a few eunuchs. We must, then, speak with caution, but as far as these imperfect observations go they confirm the results which we would in the first instance have anticipated.

I think it would be very unsafe to dogmatise concerning the exact part which the prostatic secretion takes in fertilisation.

Fürbringer is of opinion that its function is to awaken the latent vitality of the spermatozoa. He found by actual experiment that the addition of prostatic fluid to testicular secretion caused movements in spermatozoa previously quiescent.

It remains to consider the relation of the prostate to micturition. This long-vexed question concerning the sphincter of the bladder can scarcely be said to be definitely set at rest. The true voluntary sphincter of the bladder is probably situated near the apex of the prostate, and consists of a circular band of transversely striated muscle, named after its discoverer—the external sphincter of Henle. The portion of urethra above this may, perhaps, almost be looked upon as part of the bladder, but unless there is considerable urinary tension it is kept closed by the elastic pressure of the prostate which surrounds it.

Leaving this necessarily somewhat lengthy introductory matter, I will proceed to the discussion of the more purely surgical part of the subject.

The enlargement which I have now to speak of is almost certainly a true glandular hypertrophy. The fibrous form may be regarded as merely a later atrophic stage. Of the cause of this enlargement absolutely nothing is known. We cannot even state with certainty its time relation to the cessation of sexual function, for, although the testes may become inactive at fifty, it is undoubtedly true that they may continue active till seventy or later. A discussion of the numerous theories would be mere waste of time, but I cannot resist a short reference to one, that of Mr. Reginald Harrison. He endeavours to prove that the enlargement is a compensatory change formed to oppose a sinking of the bladder behind the prostate which, he says, tends to occur in old age.

To support such an extraordinary, so improbable, a theory, one would expect to find very convincing proofs that this sinking of the bladder does occur—such proofs are not forthcoming. Further, the enlargement is not fibrous, nor even muscular, but, as I have said, almost certainly glandular; and even Mr. Harrison will hardly think it possible that a gland should increase in size in order to support some superimposed structure.

Again, in certain of the lower animals—*e.g.*, dogs—this enlargement occurs, and in them the axis of urinary pressure is entirely different. The only difficulty which Mr. Harrison himself recognises is the occurrence of those masses which sometimes grow up into the bladder. This he explains by the following amazing

statement:—"I would speak of these as the upheavals of a frequently contracting muscular ring." My respect for Mr. Harrison as a distinguished surgeon will prevent me expressing what I think of this volcanic utterance. It is surely a *reductio ad absurdum*, and I would have made no reference to the theory were it not an excellent example of the dangers attending speculation on so obscure a subject.

Before discussing the operations proposed for the relief of prostatic hypertrophy, it is scarcely necessary to make the statement that a very large majority of all such cases require no treatment other than properly conducted catheterism, and such a regulation of the general mode of life of the patient as may be best suited to his condition. Setting aside these cases there remains a minority in whom these simple methods are no longer sufficient. I will briefly consider what indications we have that such a stage has been arrived at. First in importance is frequency of micturition. The principal causes of such frequency are an increasing proportion of residual urine, cystitis from whatever cause, and, thirdly, contracted bladder. This latter condition, though apparently uncommon, is one of great importance, since it may be regarded as a certain indication for operative interference. A patient in this condition, as Sir H. Thompson puts it, lives for little else than to pass his catheter, and has arrived at a stage that is the almost certain prelude of approaching death.

In addition to extreme frequency and conditions, such as cystitis, specially associated with it, I wish to remind you of certain other indications of the approaching end to catheter life. One is increasing difficulty in the passage of instruments due to the particular nature of the growth. Another is repeated hæmorrhages. A third the presence of a calculus.

The occurrence of these signs may be regarded as the advent of a further stage in the life of the patient with prostatic hypertrophy. The further course, if untreated, is one of continuous decline. It is marked by signs of general deterioration—such as progressive emaciation, loss of appetite, and thirst with dry and coated tongue; and at times by graver symptoms, as a remitting fever or recurring rigors. These, when combined with signs of local deterioration—increasing frequency, increasing proportion of residual urine, and, at times, it may be absolute retention—complete a picture only too familiar and point with certainty to the coming on of death.

That this sequence of events may be expected when the signs we have mentioned become manifest, has long been recognised by surgeons; and it will be convenient to briefly consider, first, what have been considered the limits of surgery in these cases up to recent times, as this will enable us to better estimate the degree of progress that has since been made.

It is only during the last few years that, for this further stage, any operation has been undertaken of a radical nature. It is indeed true that every now and then operators, who either held a great reputation or wished to obtain such, proposed and practised cutting operations on the prostate, but none of these received universal sanction and they do not even receive mention in standard text books of surgery. The palliative measure most deserving of attention is perineal drainage. This operation was brought prominently before the profession by Sir H. Thompson some ten years ago, and, needless to say, is based on sound surgical principles. By getting rid of the necessity for frequent catheterism, it furnishes rest for the patient, and by affording excellent drainage in *most* cases it gives rest to the bladder and urethra and does much for the relief or cure of cystitis.

But while fully recognising the excellent results obtained in many cases, we cannot overlook certain limitations to its usefulness.

1. It is unlikely to afford sufficient drainage if there is much post-prostatic pouching of the bladder.

2. If the prostatic urethra is much lengthened it cannot allow of digital exploration of the bladder—a calculus might in these cases easily be overlooked.

3. If catheterism has been difficult on account of the form which the enlargement has taken, this difficulty cannot but again present itself when the perineal wound has closed.

That there are such limitations is, of course, fully recognised by Thompson, and he has recommended another operation as a substitute for it or as a sequel to it. This operation is suprapubic cystotomy for exploration purposes, and the subsequent maintenance of a permanent opening, in which is fixed a shielded silver catheter. Sir H. Thompson gives some details of a case thus operated on as a proof of its success.

This was “an advanced case of constant and painful catheterism.” A suprapubic exploration was carried out in 1886, “and dense fibrinous deposit and much adhering phosphatic grit were successfully removed,” and the patient was able to walk abroad in about

a month. Now mark his condition: he was able to walk three or four miles a day, was free from pain, and his general health was on the whole good, but he had constantly to wear his silver cannula, and supplemented his own faulty anatomy with the ordinary urinal worn by persons requiring such a convenience. Instead of the simple method of relief which normally precedes sleep, this unfortunate man had to wash out a large part of his urinary tract. First, he removed and washed his cannula, then, I suppose, he cleaned out his rubber bag, and, lastly, the relics of his bladder.

Now I have no doubt this man's condition was much improved, but, I think, he surely had no elysium here on earth, and would welcome the time when he would be called upon to shuffle off this mortal coil and his artificial bladder for ever.

I have endeavoured to state, as clearly and briefly as I could, the most which a surgeon can expect to do for these advanced prostates if he keeps to the beaten tracks of what I will call orthodox surgery; and I will now lay before you the newer operations performed and the results achieved by men, some of whom I am pleased to look upon as pioneers of nineteenth century surgery.

First amongst such operations I will place suprapubic prostatectomy. For the introduction of this operation surgery is certainly indebted to M'Gill, of Leeds; for, although isolated instances of its performance occurred from time to time, it never received any serious consideration until its claims were urged by M'Gill in his Leeds Address before the Medical Association in 1889.

It would be beside my purpose to here discuss the technique of the operation. Suffice it to say, that an opening is made above the pubes. The interior of the bladder is carefully examined and the growth removed. The object in all cases is, first, to remove any protruding intra-vesical growth, and, secondly, to provide a low-level urethra which will be capable of draining a post-prostatic pouch. The first portion of the urethra should be digitally examined, and if it is necessary to extend the operation to this region it is considered well to add to the supra-pubic opening another in the perineum to drain this portion of the urethra.

This account, though brief and imperfect, will, I think, sufficiently show that this supra-pubic prostatectomy is an operation of the greatest possible gravity. It matters little what published statistics show; common sense, which is often a better guide than statistics, will clearly show to any man possessed of it, that this is

an operation attended with the greatest possible risks to life, especially in the case of such patients as these. Granting this, it is evident that to justify its performance its advocates must show us results better than can be obtained by other safer means. Particularly they must show—

1. That the obstruction will not recur in even a large minority of cases.

2. That the function of micturition will be restored in a fair proportion of cases.

3. Or, failing this, that the patient will be once more able to resume his catheter life with far greater comfort and success than previously.

As regards recurrence, it is satisfactory to find only one instance of it in ninety-four cases recorded by Maunsell Moullin; and any opportunities which have arisen of subsequent examination have confirmed clinical results.

Concerning the restoration of micturition by this or other forms of prostatectomy, Sir H. Thompson makes the following statement in his Clinical Lectures in 1888, not since, as far as I know, contradicted:—"I have long wished to see this sight, and have travelled considerable distances abroad and elsewhere expressly seeking it, but at present without success."

Now, it requires most convincing, overwhelming evidence to overthrow this opinion stated by the greatest living master of urinary surgery. I believe such evidence is forthcoming. I cannot discuss the matter at length, but I would instance particularly several of M^cGill's cases published since Thompson's lecture, a case recorded by Buxton Browne, and, again, at all events, one of Mayo Robson's twelve cases.

But, apart from this very severe test, the restoration of the function of micturition, this operation of supra-pubic prostatectomy has shown such excellent results as to justify its holding a definite place in surgery. I think we should, however, insist that as an operation it must be confined to a very limited class of cases—to men who are no longer able to live with the aid of catheterism alone, but who still possess sufficient strength to undergo a major operation, an operation likely to be attended with severe shock, and, it may be, considerable loss of blood. For the remainder—the far advanced cases—there is, I believe, at present one chance, and one only, and that a perineal section.

I have not thought it necessary to consider other procedures

which are, for the most part, only modifications of perineal section; but quite recently an entirely novel operation has been proposed which I must now refer to. The operation cannot at present be said to hold any definite position in surgery; but the very fact of its being on its trial will, I hope, give it the greater degree of interest. This operation is double castration.

I will lay before you the arguments which have been held by some to justify its experimental performance:—

1. The prostate is a sexual gland, the homologue of the uterus.
2. The uterus undergoes atrophy at the menopause, whether occurring naturally or induced by oöphorectomy.

The conclusion drawn is, that the prostate would undergo atrophy if the testes were removed.

This argument is somewhat weakened by the fact that the prostate is not, as we have seen, the homologue of the uterus; but, nevertheless, we are justified in thinking that the prostate, a sexual gland, will atrophy with the whole generative system on removal of the master organs, the testicles, just as the whole female generative system atrophies when the ovaries cease to functionate.

To obtain additional light, experiments have been carried out on the lower animals, and these, you will remember, conclusively prove that the normal prostate atrophies after castration in them. This would lead us to expect a similar change in man. But, as I have said, the evidence is not very convincing, and applies almost entirely to eunuchs; and it is manifestly a very different matter that growth should be arrested than that a fully-developed gland should atrophy. However, quite apart from this evidence, it seems to me exceedingly likely that the normal prostate would atrophy in men if the testes were removed, for it does so in dogs, and there is no reason to suppose its functional position, with regard to the sexual apparatus, different in them to what it is in us.

Granting all this, we are still far from having solved the problem before us; for, although a normal prostate atrophies, it does not necessarily follow that a morbid one will do so. Nor do we know enough about the hypertrophied prostate to say that this is even likely. If we could say that the enlarged prostate was the result of excessive sexual activity the case would be very different; but I am convinced that there is no proof of any kind that such a causal relationship exists. Buxton Browne says he is "more and more struck by the fact that prostatic hypertrophy often follows a second marriage or a marriage contracted late in life." This

vague statement is quite worthless. Besides, we must bear in mind the important fact, that the hypertrophy occurs, not during the period of greatest sexual activity, but when that function is on the wane.

I would have considered that the arguments in favour of castration were not such as to justify its application to man. I would have thought the proper course to pursue would have been to have obtained animals whose prostates had undergone hypertrophy—doubtless, a matter of difficulty—to have castrated them, and, if the results were satisfactory, I would have considered the experiment on man justifiable. Fortunately for surgery, others with better right to an opinion have not considered this intermediate step, with its accompanying delay, necessary; and now the operation has been performed quite a considerable number of times.

The operation was first performed by Ramm, of Christiania, in April, 1893. Since then by Haynes, Professor White, Fremont Smith, and Maunsell Moullin. The results are very satisfactory.

I need only refer in any detail to one case, and I will select the last which I have read of—an operation performed by Maunsell Moullin, in June last, and reported in the *British Medical Journal* of November 3. The patient was eighty-one years old. He had complete retention, due to an enormously enlarged prostate, as felt per rectum. No catheter could be passed, so the bladder was aspirated above the pubes. After this the necessity for some permanent operative relief became urgent, as the man could not sufficiently relieve himself, and he was losing ground. Supra-pubic prostatectomy was out of the question, so the choice only lay between a perineal drainage or castration. Moullin decided on attempting the latter, and performed the operation with the following results:—In ten days the prostate was smaller, and after three weeks all that could be felt per rectum was a fusiform thickening extending along the catheter, so small and soft that the shaft could be felt everywhere through it. An ordinary catheter could be passed with ease.

This result is truly wonderful; and all the other operations performed up to the present appear to have been nearly equally successful.

We may, then, safely conclude that castration can cause an atrophy of a hypertrophied prostate; and, further, that perhaps one would be justified in performing the operation in certain advanced cases as a substitute for perineal drainage. We must

remember, however, that, as an operation, it is still in the experimental stage.

This operation of castration brings us to the furthest limit of advance in this branch of surgery, and I will, in a few words, state the conclusions which can, I believe, fairly be drawn from a general review of the subject:—

1. Now, as formerly, the large majority of cases require no treatment except regular catheterism.

2. For some, however, this is insufficient, and we may then resort to supra-pubic prostatectomy if the patient seems to have sufficient strength.

3. For the very old and feeble there is at present only one operation recognised by surgery—i.e., perineal drainage.

4. But now it seems possible that we may have in double castration an alternative measure. The results already obtained make us hopeful; but I think at present Irish surgery can afford to wait.

It only remains that I should express my thanks to many kind friends for the extensive assistance they have given me; and, in conclusion, I wish to thank you, gentlemen, for your courteous attention to my Address, which has, I fear, attained a length out of proportion to its interest.

ART. VII.—*Cocain Poisoning.** By J. B. MATTISON, M.D.;
Medical Director, Brooklyn Home for Habitues.

It is "ancient history," more or less, since the writer began to present the record of toxic effects from cocain.

During the nearly nine years past dozens of deaths and hundreds of non-fatal cases from untoward effect of this drug have been placed before the profession, so that one is at a loss to know whether he who, at this late day, says, "It has hardly been reasonable to call it a poison in any ordinary quantity," is ignorant of this toxæmia, or is blinded by a feeling in its favour that prompts him to question this fact, and prevents him counselling that caution in its use which prudence undoubtedly demands.

A Boston oculist, Dr. J. A. Tenney, writing recently about "mishaps with cocain," used the language we have quoted, and, in so doing, may have intended to limit his statement regarding its non-toxic effect to his special field. If so, he might better have

* Read before the King's County (U.S.A.) Medical Society, October 16, 1894.

been more explicit, for, surely, it was not wise to disclaim, in a general way, its power as a *poison*—for *poison it truly is*.

In November, 1888, at a meeting of the New York Neurological Society, Dr. William A. Hammond, speaking of cocaine, said "he did not believe any dose that could be taken was dangerous." Before that meeting ended, the writer challenged such a dangerous statement, and warned the members against accepting it; and during the next year presented such convincing proof that Dr. Hammond was wrong as to impel the *British Medical Journal* to assert, editorially—"If it were needful to produce more proof of the unsoundness of Dr. Hammond's opinion, Dr. Mattison has effectually done this."

Dr. Hammond has lived to see the day that he regrets, quite likely, having expressed such dangerous doctrine. He certainly has admitted his error; for, in discussing my paper on "Cocaine Inebriety," read before the District of Columbia Medical Society, Washington, Christmas Eve, 1891, he frankly confessed that he was wrong, and avowed that he had nearly killed a patient with cocaine.

No one can tell what mischief went in the wake of his expressed disbelief in the toxic power of this drug. Had it come from some obscure practitioner it would have passed almost unnoted; but with the weight of such authority as Hammond's professional prominence gave it, it was all the more dangerous.

The first lethal case of cocaine poisoning was due to the hapless surgeon's reliance on its asserted use in large amount without harm. This case had a doubly tragic ending; for, not only did it cost the life of the patient—a young woman—but the unhappy surgeon, overcome by regret or remorse, committed *felo de se*.

What the outcome, fatal or non-fatal, all unrecorded it may be, of a like reliance on Dr. Hammond's statement?

Dr. Tenney seems to think that the taking of 18 grs. of cocaine, subcutaneously, in three doses at short intervals, without death, which was Hammond's claim, proves it "hardly reasonable to call it a poison." We do not agree with him. It simply proves an exception to a rule, just such as obtains along numberless other lines, and in view of what history has since given us concerning cocaine poisoning, it proves that it was a foolhardy affair, for it might have cost the venturer his life. Many a man, less a Hercules than Hammond, would have been promptly "gathered to his fathers."

There is little question that the earliest reports on cocaine roused a fervour in its favour that led more than one to commend it with a zeal not tempered by that caution which prudence demands. Others, while not lauding it unduly, were inclined to disparage the warning note that was sounded early against it. I well recall a member of the Neurological Society, who expressed himself as much pleased with Dr. Hammond's assertion, regarding the non-harmful nature of cocaine as one likely to lessen an unfounded prejudice against a valuable drug.

With the deadly record that has since been presented, it is quite probable that member (Leonard Corning) has changed his opinion, for he must now know the expressed fear of cocaine had a foundation on fact.

History has repeated itself along lethal lines as regards cocaine so often that it really seems surprising that anyone at this day should question its power for harm. It may not be known to all that cocaine has killed in smaller dose than morphin—but that is a fact. It may not be known to all that cocaine has killed in quicker time than morphin—but that is a fact.

Autumn before last, I reported, for the first time, through the courtesy of Dr. George B. Cushing, now of Wheeling, Va., this case:—Strong man walked into Bellevue Hospital, suffering from urine retention. Catheter disclosed stricture. One drachm of a four per cent. solution of cocaine was thrown into urethra. Almost at once patient became greatly excited, and in a few seconds went into convulsions, so violent that it required the combined strength of doctor and nurse to hold him on the table. Amyl was promptly used; no reaction; in four minutes the man was dead.

This case, for which I thank Dr. J. E. Lumbard, New York City, is now first reported:—Man, aged 25, entered Manhattan Hospital, complaining of two days' urine retention. Catheter revealed traumatic stricture, due to a 2½-inch sewing needle put in urethra by chum, during a drunken frolic. Twenty minims of a four per cent. cocaine solution were injected into urethra. Immediately patient went into convulsions, and, despite every effort, died. Autopsy in each case showed intense lung congestion.

Very recently two deaths from cocaine—within a fortnight of each other—have been noted, and are now first reported.

On the last day of last month, a young woman visited a "complexion artist"—so called—in Chicago, to have a facial blemish removed. Sham electricity was used, it being really a

dummy battery, one sponge of which, saturated with a strong solution of carbolic acid, was held to the affected part, with the result of causing great pain. To relieve this, a four per cent. solution of cocaïn was freely applied. In a few minutes, the woman became excited, said she felt strange, walked to a window, and fell dead. No autopsy.

Four days ago—Friday last—a man, aged 26, entered the office of a Jersey City physician, to be operated on for a rectal fistula. Twenty minims of a four per cent. cocaïn solution were injected hypodermically for anæsthesia. No effect ensuing in ten minutes, twenty minims more were injected. In three minutes the man became unconscious and convulsed. One minute later he was dead. No autopsy.

The evidence to prove cocaïn a poison is now so ample that no excuse will avail to exonerate the doctor who, not heeding the lesson taught by the gruesome record, fails to use it with the care its toxic energy demands.

It is a drug powerless for good in certain conditions; but its power for ill must never be lost sight of, if one would conserve the best interests of those on whom it may seem wise to use it.

TOLYSAL OR SALICYLATE OF TOLYPYNNILL.

THE pyrexia is not affected by the first gramme dose of tolysal, but one hour after the second dose of a gramme the fall in temperature gradually begins falling the one-tenth of a degree of Cent. at a time; after the third dose the effect is very marked, a degree Cent. being usual. If the dose is again repeated until four or five grammes have been taken the fall reaches two degrees Cent. Its effects are particularly marked in typhoid fever. Profuse sweating follows its administration, and not unfrequently nausea, vomiting, vertigo, and headache.—*Ther. Bl.*, No. 5; *Les Nouveaux Remèdes*, No. 16.

PENTAL.

PHILLIP (*Zeitsch. f. Kinderheilkunde*) recommends pental as the best anæsthetic for children. Its advantages are—(1) Anæsthesia occurs rapidly; (2) There is very seldom excitement; (3) Consciousness quickly returns; (4) No unpleasant after-effects. The cardiac irregularity and the cyanosis cease on discontinuing the anæsthesia. The cyanosis he considers to be due to a toxic action on the respiratory centre and to atonic contraction of the diaphragm and muscle of the glottis. His experience was gained from one thousand operations, all of which were successful.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Two Monographs on Malaria and the Parasites of Malarial Fevers.

I. On Summer-Autumn Malarial Fevers. By E. MARCHIAFAVA and A. BIGNAMI. Translated by J. HARRY THOMPSON, A.M., M.D. *II. The Malarial Parasites; a description based upon observations made by the author and other observers.* By JULIUS MANNABERG. Translated by R. W. FELKIN, M.D. London: The New Sydenham Society. 1894. Pp. 428.

THE New Sydenham Society has issued few volumes of greater interest than that before us. The life-history of the malarial parasite is a true romance of science, and, independently of its scientific interest, its discovery has thrown much light on the obscure problems connected with malarial diseases which have hitherto defied solution, has greatly facilitated the diagnosis of doubtful cases of this class of diseases, and has given a rational basis for their treatment.

It would be impossible for us to attempt an analysis of these two remarkable monographs, which have been so admirably translated, since every page is filled with minute descriptive details and with close reasoning founded on the facts observed. We must limit our notice to a general outline of the contents of the papers, which will, we hope, be carefully read by all who feel an interest in one of the most fascinating and important advances of recent scientific medicine.

The monograph of the Italian authors, after a short introduction stating the scope of the work, gives a classification of the malarial fevers, which are divided into two great groups. In the first are included the tertians and quartans which occur at Rome during the Spring and Winter. If quotidians occur in this group they are either double tertians or triple quartans. These fevers are of a mild character and yield readily to treatment. To the second group belong the severe fevers of the Summer and Autumn. These are true quotidians and malignant tertians. To the latter belong the malignant intermittent fevers and the greater number of the sub-continued. In each case the disease is produced by a

parasite, which lives in the blood corpuscles, and which goes through a cycle of developmental changes. The parasite is different in each case, and the time taken for it to complete one cycle of its life-history is the time between two successive attacks of fever—i.e., 24 hours in true quotidians, twice 24 hours in tertians, three times 24 hours in quartans. These parasites as they are met with in the Winter and Spring fevers are first described. Then the Summer-Autumn fevers are considered. One chapter is devoted to a historical sketch of the opinions of other writers, and then we have chapters on the quotidians and tertians, giving the authors' own observations and opinions. Here we have a careful description of the parasite and its various phases of development, and the relation borne by them to the different stages of the disease. Particular notice is taken of the remarkable crescentic bodies, which are only met with in these severe types of fever. Many clinical cases are recorded, and several temperature charts are appended, which show the microscopic appearances at each stage of the fever, and the effect of quinine on the parasite.

After a chapter on the diagnosis of the different parasitic varieties, comes a most valuable chapter on the malignant fevers, in which different types of malignancy are described, and their explanation deduced from the biological conditions of the parasites. The great number of parasitic individuals present, the mechanical obstruction of the capillary vessels, chiefly those of the brain, and the toxins developed at the time of sporulation, all receive ample notice. In this chapter, also, we find numerous clinical histories.

The next chapter describes the action of quinine on the parasite, and shows that the rules for the administration of the drug which have been arrived at empirically, admit of the most satisfactory explanation from the poisonous action on the parasite—an action which is exerted only at certain stages of its evolution. The frequent failure of quinine in malignant cases is explained, and rules are laid down for the administration of the remedy in the Summer-Autumn fevers.

A most interesting chapter on phagocytosis—as observed in the blood, spleen, and bone marrow, and its difference in the different fevers, together with the part played by this process in the spontaneous recovery or cure by quinine—completes the work. A number of notes by the authors, and four appendices are added. Besides the temperature charts, the paper is illustrated by a coloured plate showing the appearance of the parasite.

Dr. Mannaberg's monograph deals less with the clinical side of malarial diseases than with the descriptive history of the parasites which produce them. After a good historical introduction, the methods of investigation are carefully given. This chapter will be of great service to all those who are inexperienced in this class of work. The rules to be observed in examining fresh specimens of blood, and the best mode of staining and preserving them as permanent objects, are well and clearly given. The results of inoculations of the blood of malarial patients on animals and on human beings are described, and the attempts which have been made to cultivate the parasite outside the body—attempts which have as yet met with uniform failure.

The next chapter, on the general and special morphology of the malarial parasite, is, of course, the nucleus of the work. All the different elements of the organisms are carefully described and illustrated by the figures which are contained in four beautifully executed coloured plates. Except in the condition of the crescentic bodies, the parasite is without a cuticle. At first it lives on the outside of the red blood corpuscle, merely adherent to it, but subsequently becomes intraglobular and completes its development in the interior of the corpuscle. The recently recognised nucleus and nucleolus are described, and the different kinds of motion manifested by the parasite.

These are the amœboid movements, the movements of the pigment and the movements of the flagella. The flagellated organisms are to be met with in all cases of malaria in which the parasites are numerous, and are persistently examined. The free flagella are the only forms of the parasite which possess the power of changing their locality. They are to be considered a necessary attribute in a distinct stage of its development, as they are the organs which enable the parasite to adapt itself to a saprophytic condition. The different varieties of spore formation are fully described. The much-disputed import of the crescentic bodies receives a very full consideration. The author looks on these as syzygies, formed from the conjugation of two individuals.

Mannaberg takes the side of those who hold that the different kinds of fever are each produced by its own kind of parasite, and holds that all the observations and experiments show that between the types of fever and the species of parasite an indisputable relation exists.

A comparison is made between the malarial parasites and some

of the lower forms of animal life, in order to determine the zoological position of the former; and it is shown that, while this determination cannot as yet be certainly made, the greatest resemblance exists between them and the coccidia, both in a morphological and specially in a biological relation, for both are necessarily cell parasites.

A description is given of the hæmatozoa which have been found in the blood of lower animals, and the symptoms to which they give rise. It is thought that the *Polymitis avium* may be most nearly compared with the flagellated bodies of the tertian parasite, for these are both developed from spherical bodies. The following is the classification of the malarial parasites adopted by the author:—

I. The malarial parasites with spore formation, without the formation of syzygies (i.e. without crescents).

(a) The quartan parasite.

(b) The tertian parasite.

II. The malarial parasites with spore formation, and with the formation of syzygies (that is, with crescents).

(a) The pigmented quotidian parasite.

(b) The unpigmented quotidian parasite.

(c) The malignant tertian parasite.

Each of these is then particularly described and illustrated, and their characteristics are admirably tabulated on page 372.

A chapter on diagnosis follows, and on the value of positive and negative microscopic evidence. In perfectly fresh infections during the first few days of the illness the parasite is sometimes missed, while the discovery of even a single parasite settles the diagnosis.

As regards the relation between the parasite and the disease, while the anæmia is explained by the destruction of the blood corpuscle, the coma by obstruction of the cerebral capillaries by the parasite, the malaria itself is regarded as a protozoa sepsis, and may be compared with ordinary bacteria sepsis.

The spontaneous cure of malaria is shown to depend on three factors—"upon the phagocytic action of the macrophages in the spleen and marrow (less upon that of the endothelium of the cerebral vessels), upon the circumstance that numerous parasites remain sterile, and, lastly, upon a destructive action of the fever paroxysm, which shows itself in the disintegration of numerous immature and mature parasites."

Quinine kills the parasite in the blood. It is most efficacious against the spores. Therefore the best time to administer the

drug is a few hours before the attack. Then the poison meets the spores as they are formed and kills them *in statu nascendi*. The crescents are unaffected by quinine.

A short chapter on the results of cultivation experiments, and conjectures as to the life of the parasite outside the human body completes the work. It is thought that the parasites do not exist as saprophytes, but live as parasites either in animal or vegetable organisms. The evidence for infection by drinking water is looked on as very defective, and it is thought that the disease is usually contracted by inhalation, although infection by the intestines is not considered as impossible. The period of incubation is usually 8-14 days, but may be much longer or shorter, probably depending on the dose of the poison received.

We should say that the volume is edited by Dr. T. Edmondston Charles, who has written an able and appreciating preface to the work.

Atlas of the Human Brain and the Course of the Nerve Fibres. By

DR. EDWARD FLATAU, with a Preface by PROF. E. MENDEL.

Translated by WM. NATHAN, M.D., and JOHN H. CARSLAW,

M.D. Berlin: S. Karger. Glasgow: F. Bauermeister. 1894.

Super-royal 4to. Pp. 25.

THIS very handsome and useful work appears simultaneously in English, German, French, and Russian. It consists of a large double plate containing 13 admirably conceived and executed figures, showing diagrammatically the course of the fibres in the spinal cord and brain. This is followed by eight plates reproduced from photographs showing the surfaces and some important sections of the brain in natural size. The plates represent—I. The base of the brain. II. View of the entire brain from above, the hemispheres separated posteriorly so as to show the upper surface of the cerebellum. III. Horizontal section through the entire brain, showing the ventricles. IV. Horizontal section lower down, showing the central ganglia and internal capsule. V. The outer aspect of the left hemisphere, with pons, medulla oblongata and cerebellum. VI. Two frontal sections, one anterior to, the other behind the chiasma—the latter showing the subthalamie region and the entrance of the peduncles into the brain. VII. Two figures—viz., (1) the inner aspect of the left hemisphere, with median section through the cerebellum, pons, and medulla; (2) the peduncles,

pons and medulla, and surrounding region. The cerebellum is divided in the middle line sagittally, and the two halves are turned aside so as to show the floor of the fourth ventricle and corpora quadrigemina. The optic thalami and nucleus caudatus are seen, but the hemispheres are cut away. VIII. Two sagittal oblique sections, one through the whole brain, showing the central ganglia and the corona radiata, the other made somewhat more laterally.

These plates are beautiful works of art, being made in the best style of photogravure, and being reproduced from photographs there can be no question as to their accuracy. All the details are clearly represented, and the views are well chosen so as to give a complete idea of the anatomy of the entire organ.

The letterpress consists of a short but clear and intelligible account of the course of the fibres in the brain and cord, in accordance with the most recent views on the subject. Such a *resumé* will be found very useful by anyone who has to study this most intricate and difficult part of anatomy.

There is one passage in the author's preface to which we would take exception. He says, "There have been no important results to record for many years from work on the macroscopic anatomy of the brain." In view of the work which has been done on the anatomy of the convolutions, more particularly that of Professor Cunningham, we think this statement requires modification. With this small exception, however, we have nothing but praise for Dr. Flatau's work, both as regards the text and the plates.

Ueber hemiopische Pupillenreaktion. Separat-Abdruck aus klinische und anatomische Beiträge zur Pathologie des Gehirns. Theil III.
VON DR. S. E. HENSCHEN, Professor in Upsala.

THIS reprint from Professor Henschen's classical work on the Pathology of the Brain gives the results of his observations on the course of the fibres which cause narrowing of the pupil when light falls on the retina. This question is best investigated in those cases where a unilateral lesion causes hemianopsia. In some of these cases when light is thrown on the blind half of the retina, the pupil contracts, in others not. By careful study of the lesions in the two cases, the path of the reflex fibres may be traced, and it can be seen how far they accompany the visual fibres, and where they separate from them, in order to reach the nucleus of the motor-oculi nerve.

After a sketch of the present state of our clinical knowledge of the condition of hemiopic pupillary reaction, the author shows that the condition really exists, and gives directions for the examination of the eye in order to demonstrate its presence or absence. He further insists that the *post-mortem* examination of the lesion must always be made by the microscope. He then gives the clinical cases which bear on the question, many of them observed by himself. He divides the cases into five groups, according to the position of the lesion.—I. Those in which the lesion lies behind or laterally from the external geniculate body. II. When it is in the central ganglia. III. When the tract is affected. IV. Chiasma cases; and V. Optic nerve cases. A detailed analysis of these cases and of the pathological lesions follows, together with an epitome of the local diagnostic importance of the latter. He then passes to the anatomical question of the course of the centripetal pupillary fibres. He shows that this is not to be solved by mere anatomical investigation, but only by experiment, or by clinico-anatomical investigation. After considering the attempts which have been made in this direction by various writers, he proceeds to give the results of his own researches. He shows that the fibres in question run in the optic nerve, chiasma—where they partially decussate, and optic tract, accompanying the latter at least as far as the frontal edge of the crus cerebri. They, however, do not enter the external geniculate body, but probably pass away towards the middle line between this and the frontal edge of the crus. We find, with the microscope, in this region only the fibres of the middle root of the optic nerve running this course. Some of them turn round the occipital edge of the crus, and running forward along its medial edge go to Luy's body, but the greater number divide into two bundles—a superficial and a deep—which surround the inner geniculate body or enter this ganglion. It is probably here that the pupillary fibres lie. From the medial side of the internal geniculate body to the pupillary motor nucleus on the floor of the aqueduct is only a step. As to the point where the pupillary fibres end, from a review of all the cases it is thought probable that this is in the anterior corpora quadrigemina, but Professor Henschen states distinctly that this matter is in his opinion not yet scientifically proved. The radiating fibres of the anterior corpora quadrigemina do not atrophy with the pupillary fibres, but arise probably from the cells of the cortical layer of the corpora quadrigemina, and communicate with the fibres of the

striatum lemnisci, by which the opticus-oculomotor reflex is brought about. Hence a lesion of the optic tract will cause hemianopsia, but if the lesion lies centrally from this, and affects the pupillary fibres (medial root of optic nerve) there will be hemianopic pupillary reaction without hemianopsia. As the internal geniculate body is concerned in hearing, there will be also defect of this sense on the opposite side. If the lesion extend further it will affect the sensory tract, and if further there will be hemiplegia. Such a group of symptoms has not yet been observed, but its occurrence would point to a lesion of the boundary between the pulvinar and the thalamus, and would be important to recognise, as it would contra-indicate operative interference. In front, the pupillary fibres start from the entire retina and run with the visual fibres in the optic nerve, and partially decussate with them at the chiasma. There is one case which seems to show that in the optic tract they lie as a special bundle at the dorso-medial edge.

The Disorders of Speech. By JOHN WYLLIE, M.D., &c. Edinburgh: Oliver & Boyd. Pp. 495.

THE contents of this volume have already appeared as a series of papers in the *Edinburgh Medical Journal*. They are of very great interest, and we think the author is well-advised in reprinting them in a collected form.

The first part, consisting of three chapters, is on the functional disorders of the vocal mechanism. The first chapter is on stammering. Speech involves two things—the production of voice in the larynx, and the articulatory movements in the mouth. These two movements must be well co-ordinated in time and degree, like the movements of the two hands of the violinist, whose bow-hand produces the sound which his left hand moulds into music by stopping the strings. In stammering the co-ordination is lost. In most cases there is a delayed action of the laryngeal mechanism, while in a few there is a delayed action of the oral mechanism, and in some of both mechanisms. In the analysis of the phenomena a very interesting description is given of the defect due to surcharge of the oral mechanism with energy, accompanied by an overflow into the upper part of the larynx, whereby the valvular action of the upper vocal cords, described many years ago by the author, comes into play, and by their approximation the exit of the air is prevented. “The patient’s voice is at once interrupted; and with open mouth and

congested face, he silently struggles without effect to emit the imprisoned air." The whole article is full of interest, but for the sections on the physiological alphabet, the prognosis, treatment, and all detail, we must refer our readers to the work itself.

The second chapter is on the functional paralyses of the larynx. It is shown that in whispering the larynx is not inactive, but that although the approximation of the vocal cords is not complete, yet they are sufficiently brought together to produce a fricative noise when "the air passes through a triangular opening in the posterior part of the glottis between the projecting parts of the arytenoid cartilages, whose bodies remain apart, although their vocal processes are more or less closely approximated." The subjects of hysterical aphonia, when the patient can whisper, and hysterical mutism, when she can emit no vocal sound at all, are then considered; also the other leading paralytic and spasmodic affections produced by functional causes.

The third chapter is on the troubles of professional voice-users, the effects of fatigue, which are compared with the different forms of writers' cramp, and classified into the spasmodic, the tremulous, and the paralytic; and the pharyngeal troubles, chiefly follicular pharyngitis.

The second part of the work is on the development of speech and the developmental derangements. In the first chapter a most interesting account is given of the development of language in the normal child, drawn chiefly from the observations of Mr. Darwin and Professor Preyer on their own children. A useful diagram is given showing the gradual growth from expressive inarticulate sounds, through language of facial expression and gesture, and automatic exercises of the speech organs, such as babbling, crowing, mimic reading, echolalia, to intelligent speech.

In the next chapter the three functions of the voice are considered. These are—(1) An exercise for the lungs and respiratory muscles. (2) A means of expressing emotion. (3) Formation of words—in this it acts with oral articulation. While emotion can be expressed in various ways inarticulately, thought can find its full expression only in articulate words. "The special mechanisms are formed upon the reflex plan, with a sensory or receptive, and a motor or productive side, between which there are connecting fibres by which influences can travel forwards from the sensory to the motor centres, so that sounds heard by means of the receptive centre may, in echolalia, be imitated mechanically by the motor.

With the development of the ruling faculties of the nervous system—namely, the intelligence and the will—command is taken by these faculties of the reflex mechanism of speech. Sounds formerly meaningless to the child are now interpreted as words with definite meaning; and soon, with ever-increasing success, the productive side of the mechanism is compelled to reproduce these words by efforts of the will." The defects of speech, manifested by idiots of various degree, are made the subject of an attractive section, in which several illustrative cases are recorded. From these it is shown—" (1) That lalling (difficulty of articulating letter-sounds, due to a want of precision in the action of the oral articulative mechanism) is the leading defect in the speech of imbeciles. (2) That stammering is occasionally associated with it. (3) That in the lower grades of imbecility, babbling, grunting, echolalia, and the use of words of their own invention, are met with in association with conditions of mental development closely corresponding to the conditions with which they are associated in the development of normal children."

The following chapter treats—first, of dumbness in persons who are neither deaf nor imbecile. This is a condition which was first described by the late Sir William Wilde. It depends on various causes—some connected with the organs of articulation; others connected with mental defects—such that the intelligence "is strong enough to have acquired the power of interpreting words, but too weak to train the motor side of the speech-centres to their production." In this chapter the language of deaf mutes is dealt with, and most valuable suggestions are made to facilitate the teaching of lip-language to English patients, where, in consequence of the want of correspondence between the spelling and pronunciation, the difficulty is peculiarly great.

The last chapter of this part is on the development of speech in the human race. The classification of languages, the origin of written language, the invention of printing, and printing for the blind, the views of Max Müller, who holds that roots are ultimate facts, and the opinions of those who hold that language is imitative, are fully discussed and criticised. Indeed this whole chapter is most interesting reading.

The third part is on speech in its relations to diseases of the nervous system. The first chapter is on speech in its relation to insanity. The following is the plan followed by the author:—

"1. To make the mind our first standpoint, and to give a few illustrations of the faithful manner in which the disorder of the mind is mirrored in the speech of the patient.

"2. To treat of speech hallucinations and other disorders of action that are met with in insanity in connection with disturbances of the cortical speech centres.

"3. To treat separately of the affections of speech in Dementia, showing how in such cases the decay of speech is slower than the decay of thought; and how, in some of them, the disease of the mental cortex spreads downwards into those cells of the cortex that form the executive motor centres for articulation, thus causing the appearance of an ominous paralytic element in articulation that is of the greatest significance both diagnostically and prognostically."

We would call attention to the interesting account given in this chapter of the hallucinations which are due to abnormal vividness of psychomotor word-images, both of speaking and writing.

The next six chapters deal with the subject of aphasia. It would be impossible for us to follow the author through this subject, but we may say that, for fulness of detail and clearness of description, these chapters have few, if any equals in our language. The different simpler varieties of aphasia are first described and illustrated by numerous cases, both original and drawn from the writings of other authors. Auditory aphasia, motor aphasia or aphemia, with conduction aphasia, visual aphasia, and graphic motor aphasia, are described in successive chapters. Then some of the additional simple forms, recognised by Lichtheim and Wernicke, are dealt with, and finally the compound varieties—compound sensory, compound motor, and total aphasia.

It would be impossible to speak too highly of the author's treatment of this difficult but most important and interesting subject. We have never read any account of these conditions which is so easy to grasp and at the same time so full and accurate.

A section of immense importance is added on the method of case-taking. There can be no doubt that a great advance would be achieved in the study of most diseases if a uniform system of case-taking could be adopted, similar to the method of conducting *post-mortem* examinations introduced by Virchow, and now almost universally followed. In a subject of such difficulty as aphasia, the method of the author will be found to give enormous assistance, and we hope that it will be very generally practised. The subject of aphasia is concluded by a chapter on aphasia and other disturb-

ances of speech, in relation to evanescent organic affections and functional disorders of the cerebral cortex. The final chapter of the work deals with the disturbances of speech situated below the cortex, and is headed, "Dysarthric and Anarthric Disturbances of Speech due to Lesions affecting the Motor Speech-tracts."

In an appendix three very interesting cases of speech disturbance are recorded; and the author has reprinted his graduation thesis on the physiology of the larynx, published in 1866; a work which has not received from physiologists the attention it deserves, and which we hope will now meet with its due meed of recognition.

In conclusion, we must again express our high appreciation of this work which cannot fail to excite the interest, not only of all those who have to do with diseases of the nervous system, but also of psychologists and of everyone interested in the study of language in its largest sense.

The Johns Hopkins Hospital Reports. Vol. IV., No. 4-5. Report in Neurology II. Baltimore. 1894. Pp. 127.

THE papers in this part of the Reports are seven in number, and are all from the pen of Dr. Henry J. Berkley.

The first article is a valuable report on dementia paralytica in the negro race. It appears that since the abolition of slavery insanity has greatly increased among the coloured population of the United States. Five cases are recorded, in all of which autopsies were made, and in two a most complete microscopic examination of the brain and cord was carried out. The following is the author's summary of the results obtained:—

"The morbid histology of the disease in the negro differs in no essential point from the same affection in the white race; there are the same alterations of the blood vessels' sheaths, probably occasioning local hyperæmic states and dilatations most noticeable in the smaller vessels; changes in the perivascular lymph flow from the widening of the channels, thickening of the lymph sheaths, and later filling up of the perivascular spaces with round cell proliferation, consequent malnutrition of the nerve elements, granulo-fatty degeneration of the cells, with rarer myeline changes, alterations of the nuclei, secondary atrophy of the cell structures, and consequent degradation of those medullated fibres that have their origin in these cells. Accompanying, or following the retrograde process in the nerve elements, and as a direct result of the want of proper nutrition, a sub-inflammatory condition of the connective

tissue elements is set up; the spider cells, from their low organisation and more direct relations with the vascular system, continue to grow and multiply (while the higher organised nerve structures decay from the want of proper food); the tentacles of the glia elements become coarser and more visible, they feed upon the disintegrating nerve structures, increase indefinitely, and absorb completely the most disintegrated nerve cell structures, and finally form (in places) a thickly interwoven meshwork of finer and coarser fibrillæ, mingled occasionally with the round nuclei of the cell body.

“For all practical purposes we have a diffuse pre-senile atrophy of the whole brain, occurring with far greater virulence than the atrophy of old age, and originating in a primary alteration of the sheaths of the vascular channels, from a cause which originates in some habit of the person, or perhaps in a constitutional defect in the tissues of the patients themselves.”

The remaining papers are on histological subjects, the investigation being carried out by means of modifications of Golgi's silver method.

The first deals with the liver. The nerves of this organ have frequently been the subject of examination, and an admirable *résumé* is given of the work previously done on them. The author finds that the vessels—both portal vein and hepatic artery—are surrounded by a close plexus of nerves. So are the ducts. Some of the nerves supply the muscular walls, while others appear to penetrate between the cells of the lining epithelium. Partly derived from the vascular plexuses are fibres which run between the hepatic cells, but terminate without penetrating the protoplasm.

The bile capillaries in the rabbit's liver are next described. They have no demonstrable wall, although it is thought probable that one exists. They are seen to send off short diverticula which extend into the interior of the hepatic cells, and by means of these it is believed that they take up the secretion.

Around the vessels peculiar perivascular cells occur, which are carefully described. They are in part identical with the stellate cells of Kupffer. Their protoplasm is filled with coarse granules, which are supposed to be derived from some constituent of the food absorbed by the portal vessels, and from them passed on to the perivascular cells.

The next article deals with the distribution of nerves in the lungs. Numerous animals were examined, but the best results were got with the grey rat. The plexus of nerves around the

bronchial arteries was found to be very extensive, and much better developed than that around the bronchial tubes with which it freely communicates. Numerous fibres extend between the air vesicles, and supply, probably, scattered muscle cells, as an epithelial ending could not be detected. In the bronchial tubes some of the fibres terminate by knobs on, not in, the muscular cells, and in the smaller tubes endings between the epithelial cells were seen. The arrangement of the ganglion cells, and of the nodal enlargements on the fibres is also described.

A very valuable article follows on the intrinsic nerve supply of the cardiac ventricles in certain vertebrates. The conclusions arrived at are given in the following propositions:—

"1. The interspaces of the muscular bundles of the heart of mammals, batrachians, amiurus, chelonians, and aves, are thickly filled, from the apex of the ventricles to the auriculo-ventricular groove, by a dense network of coarser and finer anastomosing nerve fibres, which touch at some point each bundle, but end terminations are not always to be found in contact with every muscular cell.

"2. The terminal apparatus of the varicose networks acting upon the muscular fibres, is most frequently at the end of a short transverse ramus, arising in the course of a longitudinal fibre, and has always the aspect of a simple bulb of varying size.

"3. Neural enlargements of considerable diameter are found developed in all the species of animals examined, upon the fibres of the inter-muscular network. These neural swellings are probably nucleated. Transition forms from the smallest varicosity on the thinnest nerve fibre to enlargements 10 μ . or longer, may be found in all well-stained sections.

"4. Nerve cells of the sympathetic system have a probable existence within the ventricular walls, and are in form spindle, pyramidal, or stomach shaped. The axis cylinders from these cells (mouse) are directly connected with the fibres of the varicose plexuses. A spray of terminal fibres upon the isolated cells is probable.

"5. More complex end-apparatns than the simple bulb of the varicose networks has only been seen within the ventricles of the highest orders of vertebrates examined, the dog, mouse, and albino rat, but from the rarity of the observations their constant presence is by no means positive, but is probable. True end plates have not been found.

"6. All the eight species of animals examined presented similar intrinsic ventricular nervous structures, muscular networks with simple bulbar end-apparatus, neural thickenings and cell-like bodies resembling small ganglionic nerve cells, though of different forms, but complex endings of the fibres were seen only in three of the varieties."

In the submaxillary gland of *mus musculus*, besides the nerves on the vessels and ducts, fibres were found outside the basement membrane of the alveoli, and others, which having penetrated this, terminated either between it and the attached ends of the epithelial cells or in the cementing substance between the latter. The terminations are by rounded knobs.

In the thyroid gland of the dog the arrangement was, on the whole, similar, but the nerves were fewer and finer than in the salivary glands, and most of the terminations were more cone-shaped than round.

The last article, on the nerve elements of the pituitary gland of the dog, contains much that is of the greatest interest. The nerve terminations in the anterior lobe between the epithelial cells follows the arrangement commonly seen in glandular structures. The posterior lobe contains many nerve cells, neuroglia cells of different kinds—and also epithelial elements. These are arranged externally as an outer lamina of slightly irregular ependymal cells. Then follows a more internal zone of varying depth, which is in places arranged in distinct acini. This secretory region passes into a central one of small rounded and polygonal cells, separated by connective tissue partitions containing blood vessels and numerous scattered nervous and other cells. It is pointed out that the structures found by Andriezen in the pituitary of *amocetes*—namely, a duct leading into the ventricles of the brain, surrounded by nerve cells, together with a glandular organ, are still met with as high up in the animal scale as the dog.

“The epithelial structures surrounding the proper nervous portion of the pituitary, are hardly to be accounted for except on the supposition that they originally enclosed a group of nerve cells, whose processes, probably through a connection with peculiar neuro-epithelial cells, had the function of testing the water entering the infundibular canal, and that after this function had become lost in the gradual ascent in animal life, these cells became metamorphosed into cells having a secretory function, in part homologous with those of the anterior lobe, and probably originated from an offshoot of the same buccal epithelium that formed the substance of the anterior lobe. The nerve cells of the lobe likewise underwent partial changes, a group of them remaining near their former situation, and retained somewhat of their old characteristics, while the deeper ones became more scattered through the infiltration of new cellular elements between them,

even to the extent of producing a partial loss of function, and consequent prevention of their further and higher organisation."

The text of the articles in this part of the Reports is illustrated by nine admirably executed plates. We think Dr. Berkley is much to be congratulated on the valuable contributions he has made in these papers to the solution of many most obscure and difficult anatomical problems.

A Text-Book of Pathology, Systematic and Practical. By D. J. HAMILTON, M.B., F.R.S.E., F.R.C.S.E.; Professor of Pathology, University of Aberdeen. Copiously illustrated. Vol. II., Parts I. and II. London: Macmillan & Co. 1894. Pp. 1,139.

THESE volumes complete Prof. Hamilton's work on Pathology, the first volume of which was published some five years ago. The publishers have done wisely in dividing this second volume into two parts, otherwise from its size it would have formed a very unhandy volume.

It is, undoubtedly, the most ambitious work on pathology that has appeared in the English language. It is intended not only to give an account of morbid anatomy and pathology proper, but also of clinical and practical pathology, and pathological chemistry. A good deal of anatomy and physiology is also contained in it, as well as the pathological explanation of many of the symptoms and signs which occur in disease.

The first volume reviewed in this journal in May, 1889, is divided into three sections:—I. Technical, describing the processes, re-agents, &c.; II. Containing an account of General Pathological Processes; III. Relating to Tumours, the Blood, and the Organs of Circulation. This second volume commences with the Respiratory System. In this as well as in all other sections of the work the pathology of so-called functional diseases is as fully discussed as of those which possess distinct and visible lesions. The account of diphtheria is full and excellent. Considering the interest now attaching to this disease, we may quote Prof. Hamilton's remarks on its bacillus:—"It appears to be an organism capable of existing in many degrees of virulent potentiality. If a series of cultivations are made from the pharynx as the disease is dying out, these seem to become successively weaker and weaker, although morpho-

logically the organism and the colonies it forms do not appear to differ from those of the most virulent type; there are all grades and degrees in the lethal propensities of the microphyte. It is seemingly widely spread abroad in nature, and, if in an attenuated state, it may alight on the fauces without working much mischief. Should the fauces be in a morbid state, however, should they be the site of an angina lacunaris, or of a scarlatinal inflammation, then the diphtheritic bacillus begins to grow on the affected parts, and accumulates virulent energy. And moreover, the oftener it is transferred from one subject to another, the more intense, *cæteris paribus*, the virulence becomes."

The article on Pleurisy is somewhat disappointing. The rôle of micro-organisms in connection with both its serous and purulent varieties is very slightly touched on.

The chapter on Lung Diseases opens with descriptions of the minute anatomy of the lung, of the movements of respiration, of the nervous influences which regulate and modify these movements, and of the physical signs met with in the chest in health and disease. From this may be gathered an idea of the number of subjects treated of in this work. Indeed, we are sometimes inclined to regret that so many, so to speak, extra subjects have been introduced; some of them are treated so briefly and incompletely that they become a source rather of weakness than of strength to the work. For example, the section on abnormal lung-sounds is very poor—no distinction is drawn between râles and rhonchi (moist and dry sounds), and no explanation is given of bronchial breathing.

In matters about which no certainty prevails, and various opposing views are held, Professor Hamilton contents himself with mentioning these different views. For example, in the case of the Pathology of Asthma, we have the bronchial spasm theory, the diaphragmatic spasm theory, Clark's theory, Leyden's theory; but we have no idea what importance the author ascribes to each or any of these. We think that when a professor undertakes to write an important and valuable book he should be prepared to weigh evidence as well as to state facts.

When we come, however, to the morbid anatomy of disease, we find Professor Hamilton at his best. Take for example Bronchitis. After a minute and careful description of the wall of a bronchus, he explains in a most vivid and clear manner how the epithelium proliferates, and becomes embryonic in character, how the base-

ment membrane becomes œdematous, &c., and all this description is copiously illustrated with woodcuts, which, although rough, show perfectly what the author wishes us to understand. All is so clear that no one can have the slightest difficulty in understanding the process. And this excellence of description of morbid processes is by no means confined to the chapter on the lungs; all through the book we are delighted with the clearness with which Professor Hamilton explains the nature of the microscopic changes which occur in disease.

The next section is on the Liver; then the Urinary Organs, and the Urine, are described both in health and in disease. The modes of examining the urine are fully discussed, and there is a chapter on the forms in which nitrogen is excreted by the kidneys. Then the Male and Female Generative Organs, and the Alimentary Canal, including Digestion and its Disorders, and the modes of examining the digestive fluids are treated of.

The section on the Nervous System is of considerable length, occupying 100 pages. Much space is devoted to a description of the structure of the brain as shown by the author's transparent sections, prepared by the gelatine-potash method. The subjects of aphasia and the cerebral connections of the optic apparatus are also described very fully, having 45 pages allotted to them. We are, however, disappointed to find no mention of all the recent work on the nerve cells of the brain done by Bevan Lewis, Andriezen, and others. It is curious, too, that, although the structure and functions of the hemispheres are so minutely described, there is no mention of the arrangement or functions of the nuclei in the medulla. General paralysis of the insane is not even mentioned—a serious and inexplicable omission. The pathology of the spinal cord is by no means as fully described as that of the brain.

While we call attention to these defects, we must add, that the section, as a whole, is admirably written, and contains a good deal of information which it would be difficult to find elsewhere.

The section on the Bones and Joints is very good; but that on the Skin is very poor, and largely consists of clinical descriptions of skin-diseases, such as are to be met with in every student's manual of Dermatology.

There is a very well illustrated chapter on Malformations. The descriptions are necessarily somewhat short, but are clear, and sufficient to explain all that is necessary.

The next section is on the Pathology of Diseases caused by Vegetable and Animal Parasites. It opens with a chapter on Systematic Bacteriology, describing the life-history, morphology, &c., of microbes. The chemical products of their growth—such as ptomaines and albumoses—are described at some length. The author discusses phagocytosis and the chemical theories of immunity, and plainly leans to the latter views. A number of coloured plates are introduced, showing the appearances presented by pure cultures of microbes. With regard to the nature of the so-called cancer bodies, Prof. Hamilton thus concludes in his cautious style:—"These bodies have never been cultivated artificially, nor have they been inoculated, and it may be added that considerable doubt is expressed by some investigators as to their being parasites at all. It has been alleged they are merely degenerated nuclei. It cannot be said as yet that they have anything to do with the production of cancerous tumours. It is asserted that they have been detected in the epithelium of the skin after the application of a blister." We think that in this, as also in many other matters, the author might have given his readers at least a hint of what his own views are.

The last chapter treats of Animal Heat and Fever.

On several points Dr. Hamilton puts forward views opposed to those which are generally held. Perhaps the most important instance in which this occurs is in the case of catarrhal inflammation. In such cases—for example, in bronchitis or gonorrhœa—it is generally held that the cellular elements of the discharge are pus-cells, and certainly they look very like them. Prof. Hamilton, however, says these cells are derived from the inflamed epithelium. He states that at the beginning of the inflammation the superficial layers of epithelium desquamate, and then the deeper layers proliferate rapidly, and becoming detached in great numbers in their immature condition constitute the cellular element of the discharge. He also states that in cirrhosis of the liver, during exacerbations of the disease the liver cells become lengthened, and eventually split up into bundles of fibrous tissue. Such a transformation of epithelium into fibrous tissue, appears to us to be very problematical indeed.

At the end of each section, and again at the end of the book, a copious and valuable bibliography is given. The illustrations are almost invariably instructive, though some of them are very rough. The figure of a female form on page 405, illustrative of

the normal position of the uterus, is pre-eminently macropygous, and the thigh shares in the hypertrophy.

Taking these three handsome volumes as a whole, we must warmly congratulate Prof. Hamilton on the successful completion of his Text-Book of Pathology. It is truly a great work, and is the most valuable and important English book on the subject with which we are acquainted.

A Manual of Ambulance. By J. SCOTT RIDDELL, C.M., M.B., M.A., &c. With numerous Illustrations and Full-page Plates. London: Charles Griffin & Co. 1894.

THE present decade is unquestionably rich in ambulance text-books, but we have no hesitation in pronouncing this to be the best of the throng. "The Manual is intended to serve not only for class use, but also as a means of reference in emergency cases, and for those using the smaller text-books. It is profusely illustrated, particularly in the sections in which anatomical and surgical details are treated." The contents are arranged under the headings of sixteen chapters: I. Outlines of Human Anatomy and Physiology; II. The Triangular Bandage and its Uses; III. The Roller Bandage and its Uses; IV. Fractures; V. Dislocations and Sprains; VI. Hæmorrhage; VII. Wounds; VIII. Insensibility and Fits; IX. Asphyxia and Drowning; X. Suffocation; XI. Poisoning; XII. Burns, Scalds, Frost-Bite, and Sunstroke; XIII. Removal of Foreign Bodies from the Eye, Ear, Nose, Throat, and Tissues; XIV. Ambulance Transport and Stretcher Drill; XV. The After-treatment of Ambulance Cases; XVI. Organisation and Management of Ambulance Classes. Closing the volume we have a very practical series of "Examination Papers in First Aid," followed by a carefully prepared Index.

The above series of headings indicate a very elaborate and complete programme, and we have much pleasure in bearing our cordial testimony to the thoroughness with which the author has filled in his outlines. He has succeeded in compressing an enormous amount of information into the comparatively small space which he has allowed himself. Where there is so much to notice, and so little to find fault with, criticism of details can serve little good purpose. Of course, in certain small instances we could manage to suggest improvement in style or greater accuracy in the details of practice. For instance, in the section on "Dog-Bites" (pp.

96-97), we are told that "the first thing to do in every case is, of course, to apply a tourniquet." We do not think so at all. We have seen a good many "dog-bites," and the present reviewer has had the unpleasant experience of being bitten more than once; and we have no hesitation in saying that the necessity for the application of a tourniquet is quite exceptional in cases of dog-bite. But we will not attempt to find any further small faults in a volume which we thoroughly admire and cordially recommend to our readers.

Refraction of the Eye: its Diagnosis and the Correction of its Errors. By H. STANFORD MORTON, M.B., F.R.C.S. Eng. Fifth Edition. London: H. K. Lewis. 1894. Small 8vo. Pp. 72.

IN the present edition the author has revised and somewhat amplified the subject-matter; but as former editions left little to be desired the changes are unimportant. As we have fully reviewed former editions of this admirable little book we need not now do more than endorse our former commendations.

The Anatomy of the Nasal Cavity and its Accessory Sinuses: an Atlas for Practitioners and Students. By DR. A. ONODI, Lecturer on Rhino-laryngology in the University of Budapest. Translated from the second edition by ST. CLAIR THOMSON, M.D., F.R.C.S. London: H. K. Lewis. 1895. Small 4to.

THIS most valuable contribution to the topographical anatomy of the nose and its accessory cavities and sinuses is excellently turned out in every particular. The introductory 19 pages are printed in good type, and the sixteen plates with which it is illustrated leave little to be desired. It has already passed through two Hungarian editions, has been translated into German and Italian, and is sure to command a ready sale to all who wish to obtain an accurate and comprehensive knowledge of the extremely difficult and important portion of the body with which it deals.

The author, in his preface, says: "In view of the great practical importance of the nasal cavity and its accessory sinuses, I have thought that it would be useful to make a series of anatomical specimens which would easily show the topographical relations of the region. From these I have prepared a set of plates, and I have been particularly careful to choose such as would be most

nstructive for practitioners and students as well as for specialists. Accordingly, I have selected those preparations which display the relations of those cavities with neighbouring organs (eye and ear), so that a glance at the plates should be sufficient to show their arrangement and mutual connections.

"The various cavities have been opened by sections made in different directions, and the preparations have then been faithfully reproduced by photography.

"The anatomical preparations were made in the laboratories of Professors G. von Mihalkovics and L. von Thanhoffer. The photographs were taken in the studio of Herr P. Kalmár, of Budapest; the woodcuts were prepared by Herr F. X. Matoloni, of Vienna."

The translator has done his part excellently, and in his preface states that as the work will be consulted chiefly on account of the accuracy and excellence of the engravings, he has, to facilitate their study, considerably enlarged the explanation which faces each plate. The sixteen plates have been chosen from among more than 50 sections. The selected preparation has been photographed and then engraved; consequently each figure is perfectly true to nature, and is not produced by combining in one picture the results of several dissections.

The book supplies a real want, and supplies it well.

The Theory and Practice of Medicine. By FREDERICK T. ROBERTS, M.D., B.Sc., F.R.C.P.; Professor of Materia Medica and Therapeutics, and of Clinical Medicine at University College; Physician to University College Hospital; &c. Ninth edition. London: H. K. Lewis. 1894. Pp. 1,168.

In spite of all the works on practice of medicine that have of recent years been published, it is pleasant to see that our old friend, and the instructor of our student-days, "Roberts' Medicine," still holds its own. And, indeed, it fully deserves to keep that place which it has so long occupied, because it has progressed with the times, and with each succeeding edition have been incorporated the advances that have been made in medical science. This ninth edition is thoroughly up to date, and thus may be looked upon as equally modern as the latest book just out.

In this edition the chief alterations are that special consideration has been given to bacteriology; and that new sections have been

introduced dealing with general therapeutics of the principal systems and organs of the body. As well as this, the whole book has been carefully revised.

We regret that Dr. Roberts has not improved the woodcuts, some of which are useless and quite out of date, if not actually misleading. We notice, too, that *Runge* on page 35 ought to be *Bunge*.

Transactions of the American Orthopædic Association. Seventh Session. Held at St. Louis, Mo., September 19, 20, and 21, 1893.

Volume VI. Philadelphia: Published by the Association. 1894.

EVERY new society is marked by the ardour and hopefulness of youth—nothing seems too great a task, and amongst their members there is no lack of confidence. Our American cousins of the Orthopædic Association are wanting in neither confidence nor hope, and, from the thirty-three communications in the present volume, we confess that their hopefulness has a good foundation in the work done in the past. In the present volume, of the many excellent papers we cannot do more than refer to Dr. H. Myre's double-lever stretching apparatus for the correction of club-foot; Dr. Wilson's report of 435 operations for the correction of club-foot; and the new paper and aluminium corsets described by Drs. Weigel and Phelps respectively, and Dr. Blanchard's paper giving a case of *fragilitas ossium*, in which the long bones of the patient were broken one hundred and six times.

Transactions of the Association of American Physicians. Ninth Session, held at Washington, D.C., May 29, 30, 31, and June 1, 1894. Vol. IX. Philadelphia. 1894. Pp. 292.

THE Association of American Physicians numbers 111 members, of whom 72 (nearly 65 per cent.) attended the ninth session. It is mainly a northern society, and Philadelphia supplies a large proportion of its members. Twenty-four papers are printed in this handsome volume. The President, Dr. Reginald H. Fitz, of Boston, chose for the subject of his address the "Rise and Fall of the Licensed Physician in Massachusetts, 1781-1860." It is a sketch of the history of medical qualification in the State. From 1781 to 1859 the Massachusetts Medical Society was the sole source of licences to practise medicine in the State. In June,

1856, the Legislature incorporated the Homœopathic Medical Society; which "was authorized to examine all candidates for membership, and, if qualified, give them the approbation of the Society. Its members were declared exempt from militia service." The Massachusetts Medical Society now accepts homœopathic diplomas and certificates.

Prof. W. Gilman Thomson, of New York, in his Notes on the Observations of Malarial Organisms in connection with Enteric Fever, discusses the existence of a specific "typho-malarial" fever, in which two different infections act simultaneously. Six years ago, in the third volume of these *Transactions*, Dr. W. W. Johnston gave the results of inquiries addressed to 350 physicians practising along the Atlantic and Gulf sea-boards. The type of enteric fever was found to vary with locality; the existence of a "typho-malarial" fever being denied in the north-eastern States, affirmed in more than half of the answers from eastern North Carolina, South Carolina, Georgia, and Florida. Again, it was stated that in certain southern localities, enteric fever was complicated with malarial intoxication, and could not be treated successfully without quinine in considerable quantity. In New York, it seems almost universally accepted that there is no such complication, and that quinine is worse than useless. The author gives three New York cases in which the two diseases appeared to co-exist; and concludes that "while it is unwise to accept the term typho-malarial fever as indicating a third form of disease, which is neither typhoid fever nor malarial fever, it cannot be denied that the two latter diseases may co-exist. Case I. certainly proves that they may do so, and this in a part of the country in which this form of double infection is most unlooked for, and the other cases, although perhaps less striking, are at the least corroborative."

Dr. Frederick C. Shattuck, of Boston, contributes a paper specially important to the medical advisers of Life Assurance Societies, on "the frequency of renal albuminuria, as shown by albumin and casts, apart from Bright's disease, fever, or obvious cause of renal irritation." His object was "to determine approximately how frequently renal albuminuria and casts are encountered in the urine in the ordinary run of adults who consult a doctor, but present no evidence, outside of the urine, of primary or secondary renal disease. He found that "the percentage of urines containing albumin and casts rises steadily with each decade [of age] from the fourth to the eighth, while those free from

albumin and casts are in steadily decreasing percentage, and the proportion of those containing albumin but no casts remains nearly the same throughout." Dr. Shattuck's final conclusions are as follow:—

"1. Renal albuminuria, as proved by the presence of both albumin and casts, is much more common in adults quite apart from Bright's disease or any obvious source of renal irritation than is generally supposed. 2. The frequency increases steadily and progressively with advancing age. 3. This increase with age suggests the explanation that the albuminuria is often an indication of senile degeneration. 4. Though it cannot be regarded as yet as absolutely proved, it is highly probable that faint traces of albumin and hyaline and finely granular casts of small diameter are often, especially in those past fifty years of age, of little or no practical importance."

We must notice one other paper devoted to a subject of great practical importance. Dr. Musser, of Philadelphia, expresses his opinion that, in that city, syphilitic disease is diminishing both in frequency and in virulence. He is supported by the statistics of the Philadelphia Hospital, in which are treated the poorer classes affected with communicable syphilitic lesions. The figures may be taken, he thinks, as a "tolerably fair index" of the frequency of the disease in the general community. In the quinquennial period 1864-1868 the percentage of syphilitic cases treated was 6·68; in 1889-1892 it was 3·05. The author attributes the diminution in some measure to increased cleanliness in the population, and to the modern methods of treatment, "which lessen the duration of the contagious period of the disease," but he thinks it probable that the soil is become less favourable to the disease, or that its virus is attenuated. In the discussion on Dr. Musser's paper, Dr. Lynam stated that the virulence of syphilis in the Pacific Islands—which had been extreme—was diminishing; and he agreed in the opinion that the disease was subsiding in violence. Dr. Post's Boston experience led him, however, to a different conclusion. In the dispensary of that city syphilitic diseases showed a tendency to increase rather than to diminish.

The A-B-C Medical Diary and Visiting List, 1895. London: Charles Letts & Co., and Burroughs, Wellcome & Co.

WE have been courteously presented with a copy of this excellent and most handy Diary by Messrs. Burroughs, Wellcome & Co.

As in past years, with the Medical Diary and Visiting List are combined brief therapeutic notes culled from recent publications and private communications under the distinctive term "*Excerpta Therapeutica*," This feature in the Diary will be found of real practical value by the physician or surgeon who wishes to refresh his memory about almost any drug in general use, whether pharmacopœial or extra-pharmacopœial. In the notes on therapeutics the authorities are quoted in each case.

The "A-B-C" is one of the best diaries and visiting lists with which we are acquainted.

The Sanitary Code of the Pentateuch. By the REV. C. G. K. GILLESPIE, A.K.C., A.C.P., &c. The Religious Tract Society. 1894.

WE have derived genuine pleasure from the perusal of this very interesting little volume. The author, who is evidently both an enthusiastic and accomplished sanitarian, has done good work in summarising the oldest and most interesting series of hygienic laws which has been transmitted to us, and he has done it well—so well that we can hardly stoop to take up any of the ordinary weapons of criticism. He has filled a distinct gap in medical literature. "Selections" and "Summaries" of the Levitical sanitary law have already been given by medical men. "But such summaries have not always grasped the whole scheme, or traced the reason actually assigned, by those best qualified to inform us, for what have to some appeared almost arbitrary exclusions, based possibly on mystic doctrine, or unscientific classifications merely exemplifying the simplicity of primitive times."

The little work before us is divided into eight chapters, followed by a "Conclusion," a "List of Scripture References," and a well-prepared "Index." The author has drawn upon the information afforded by the best authorities—original and second-hand. From the "*Rabbinical Treatises*" and "*Critici Sacri*" down to Fream's "*Elements of Agriculture*," the most illustrative comments have been extracted. As he too truly observes, in the opening paragraph of the first chapter, "the belief too commonly exists that our age is immeasurably ahead of all preceding times." Anyone who takes the trouble of reading this booklet will be obliged to conclude, from the best evidence, "that in this, as in other departments of know-

ledge, much had been forgotten, and re-discovered by modern research,"

As the Bible is the best known of all books, it is hardly necessary for a reviewer to enter into a discussion of the details of a sanitary system, which we must presume to be fairly familiar to all Christians. We prefer to refer the reader to the Scriptural text, and to the very interesting and thoroughly scientific commentary now before us. The great advantage to be gained by a perusal of the latter is the amount of scientific and historical light which is shed by the writer on passages whose importance might never have occurred to the ordinary reader. We cordially recommend this little work to the attention of everybody interested in the progress of sanitary science.

Dr. William Smellie and his Contemporaries; a Contribution to the History of Midwifery in the Eighteenth Century. By JOHN GLAISTER, M.D. Glasgow: James Maclehose & Sons, Publishers to the University. 1894.

THIS is a good work, well done. In a beautifully-printed octavo volume of 369 pages, Dr. Glaister gives us the history of an exemplary medical life, in the course of which innumerable, and often apparently insuperable, difficulties were bravely encountered and nobly overcome. The perusal of this book has given us an amount of intellectual pleasure which it is no exaggeration to call intense. It will be a healthy stimulus to the honourable ambition of every high-minded young man entering upon the practice of medicine to study this story of the career of William Smellie, from his comparatively humble home in Lanark to the establishment of his cosmopolitan fame in the English capital. His was a career of honourable exertion, in the course of which the want of money and of friends was very often found to oppose the blighting influence which have too frequently wrecked the career of high professional ambition.

The volume abounds in interesting and illustrative anecdote, and is brightened on all sides by side-lights from the medical literature of the period. When he went to London to try his fortune as a "humble apothecary and man-midwife," his genius and earnest energy soon had the usual effect of arousing bitter professional jealousy. "The fierce and malevolent criticism of William Douglas" is painful to read of: that of Mrs. Nihell, who

"was the most uncompromising opponent of man-midwifery," are more amusing. Smellie's enthusiasm for the improvement of his art led him to teaching, and his "*phantom*" soon became so famous as to arouse the ire of Mrs. Nihell. "This was," says she, "a wooden statue, representing a woman with child, whose belly was of leather, in which a bladder, full perhaps of small beer, represented the uterus, &c., &c." One of the chapters of the volume, which occupies 36 pages, gives an intensely interesting and comprehensive review of "The Literature of Midwifery from 1660-1760."

We recommend this volume to the notice of every reader who takes an interest in the past history of medicine, and to all who think that they are likely to profit by studying the example of the honourable career of a high-minded professional man.

Enlargement of the Prostate: its Treatment and Radical Cure. By C. W. MANSELL MOULLIN, M.A., M.D. Oxon.; F.R.C.S. London: H. K. Lewis. 1894.

IN this well-filled octavo volume of 176 pages the author deals with one of the most important problems of surgical practice—the causes, symptoms, and treatment of "Enlarged Prostate." He speaks with the well-earned practical experience which he has acquired in the wards of the London Hospital. He delivers his opinions with the confidence of a surgeon of practised skill, and with the zeal of a temperate enthusiast. In the first chapter he gives an excellent account of "The Normal Structure and Functions of the Prostate," and in the second he deals similarly with the "Enlarged Prostate." In the third chapter he deals with "The Causes of Prostatic Enlargement," and shows how the advancement of recent theory has come to influence his own faith in practice. "That the normal development of the gland is dependent upon that of the testes is undoubted. . . . That the enlargement disappears within a few weeks after the testes have been removed is now proved (see Chapter XI.). Probably, therefore, this abnormal growth is in some way conditioned by the state of the master-organs of the male sexual system."

The author is very hopeful with regard to the future of the operative treatment of enlargement of the prostate. The records of skilfully-performed prostatectomy are rapidly becoming more encouraging, and when all other sources of hope have failed,

castration may be resorted to as a certain cure, if the patient can bear this comparatively simple operation.

We cordially recommend this monograph to the attention of all practising surgeons.

Bulletin of the Harvard Medical Alumni Association, Number 7. Report of the Fourth Annual Meeting held in Boston, June 26, 1894. Boston. 1894. (With a Catalogue).

THE Harvard Medical Alumni Association consists of all graduates of the Harvard Medical School who, being approved by the Council of the Association, pay an entrance fee of one dollar and an annual subscription of equal amount. It was organised in April, 1892, and now contains 1,131 members, "representing thirty-six States and Territories of the United States, the Dominion of Canada, and six foreign countries; and the membership roll comprises the names of more than one-half of the whole number of the graduates of the Harvard Medical School known to be living." Boston contributes 386 members; the rest of Massachusetts, 387; New York City, 36; other parts of the State, 23; Pennsylvania, 5. Only 80 members attended the annual meeting.

The members, having duly dined, were addressed by the outgoing President, Dr. Chadwick, of Boston; and we shall briefly notice some parts of his discourse. He reports that the legislature of Massachusetts had passed an Act for the Registration of Physicians and Surgeons. The assumption of the title of Doctor of Medicine, or M.D., by unauthorised persons is subjected to penalties; but no attempt is made to interfere with "clairvoyants, or persons practising hypnotism, magnetic healing, mind-cure, massage methods, Christian science, cosmopathic or any other method of healing." (This passage appears to be quoted from the Act). He gives a summary of the medical students of 1893-94, as follows:—Attending graduate courses, 26; fourth class, 38; third class, 114; second class, 133; first class, 135; total, 446. He does not anticipate any serious reduction in the number of students as a result of the adoption of a four-years' course of study. In 1894, sixteen students graduated after a four-years' course, 92 after three years' study.

From the Report, which was read after Dr. Chadwick's Address, we learn that the three-years' course in Harvard Medical School

is now finally superseded by a course of four-years' study. The last class of three-years' men was to graduate on the day following; and "the first of the required four-years' classes has just completed its second year, so that a year hence there will be no regular graduating class, except the last voluntary fourth class." We learn, also, that it is hoped ultimately to require the degree of A.B., "or its equivalent," as a condition of admission to the Medical School. Already the standard has been raised. After June, 1896, a knowledge, "considerably greater than that now required," of English, Latin, Physics, Chemistry, French or German, Algebra or Geometry or Botany, will be a necessary preliminary to admission to the Medical School.

Dr. Osler, Professor of Medicine in the Johns Hopkins University, Baltimore, also addressed the meeting. His account of the requirements of his University is of sufficient interest to quote in full—

"There are two points in which the Johns Hopkins Medical School differs from the other schools in the East. The first is in the nature of the preliminary requirements. We require the degree in arts or in science as evidence of a liberal education; and we require also a specified amount of training in physics, chemistry, and biology, with a reading knowledge of French and German—that is to say, a man must have had, in addition to classics and mathematics, full and practical instruction in chemistry, biology, physics, French, and German, and in general literature. The requirements in physics, chemistry, and biology are of such a character as to demand extended laboratory courses. Here, in reality, is the only essential difference between the Hopkins School and the other schools. It is a question whether the time required to enable a student to get his preliminary training in arts and science is not somewhat too long. An ideal arrangement prevails at the University of Cambridge, England, where the arts and medical courses in first years run concurrently, and a man graduates A.B. at the end of three years in the natural science tripos, and M.B. at the end of about two and a half years of additional study. His undergraduate work is largely in the sciences—biology, chemistry, physiology, and anatomy. At present, as the curriculum is arranged at the Hopkins University, it extends over seven years—three in the chemical-biological course of the college, and four in the Medical School. That is possibly too long, when one considers that a student wishes to spend a year in the hospital, and, if he can, a year abroad. It raises the age of self-support to twenty-seven or twenty-eight. I think that an arrangement such as exists at Cambridge, England, will be ultimately made in many of the medical schools con-

nected with the universities in this country, so that men may be able to take in the academical department much of the scientific work which will count for the degree of M.D."

The University of Dublin, Ireland, is uncommonly like that of "Cambridge, England," in this respect.

We are within measurable distance of co-education here. Johns Hopkins experience is interesting. Dr. Osler reports that "thirty-three and a third per cent. of the lady students admitted to the first year of the Medical Faculty of the Johns Hopkins University are at the end of one short session to be married," and asks despairingly "where will the class of lady students be at the end of the fourth?" There were, let us explain, but three. "In all other respects co-education is a great success."

Statistique et Observations de Chirurgie Hospitalière. Par le DR. POLAILLON, Chirurgien de l'Hôtel-Dieu, Professeur agrégé à la Faculté de Médecine de Paris, Membre de l'Académie de Médecine. Paris: Octave Doin. 1894. Pp. 413.

THIS goodly volume contains statistics relating only to the lower extremity. M. Polaillon was in charge of 70 beds in the Pitié hospital and subsequently of 48 in the Hôtel-Dieu, besides special wards for ovariectomies and similar operations. His statistics, so far, give his experience of fourteen years from 1879. He classifies his surgical diseases regionally; subdividing into traumatic affections, organic, and malformations. His figures are not confined to operations; he thinks the results of treatment without operation are quite as interesting as statistics of the results of operations. 3,612 patients were treated without operation; on 1,137 operations were performed.

In general, 2,404 traumatic lesions yielded 2,364 cures or improvements, and 40 deaths. 2,345 organic affections gave 2,274 cures or improvements and 74 deaths. The fatal cases, arranged under four heads give the following percentages:—1. Deaths due to the original disease (33): traumatic, 0.34; organic, 1.07. 2. Deaths by accident or intercurrent disease (38): traumatic, 0.62; organic, 0.98. 3. Deaths due to old age or to antecedent tuberculosis or cancer (18): traumatic, 0.25; organic, 0.51. 4. Deaths resulting from operation (22): traumatic, 0.46; organic, 0.46.

Omitting 53 cases of trifling character, we have 1,084 operations. Those performed on soft parts gave a mortality of 3.10 per cent. ;

those performed on joints and bones, 11.22. Only 1.75 per cent. of deaths (19 in 1,084 operations) were considered to be directly due to operation—eight by shock, seven by septicæmia following the operation, and four by tetanus.

The Etiology of Ossous Deformities of the Head, Face, Jaws, and Teeth. By EUGENE S. TALBOT, M.D., D.D.S. Chicago: The W. T. Keener Company. Third Edition. 1894. Pp. 487.

THAT the teaching and methods of Darwin have made a deep impression on Dr. Talbot will be evident to those who read the work with which we now deal.

Where there is so much to notice in the vast mass of material which the author has patiently investigated and arranged, it is invidious to single out chapters as specially worthy of attention; however, the general plan of the book may be gathered from the following excerpt from the introduction:—

"The causation of deformities of the head, face, jaws, and teeth has not received the attention from scientists which its importance demands. Of late these deformities have been traced to climatic changes, race intermixture, heredity and social environment. The unstable conditions of this last, as shown in commercial civilisation, give rise to a tendency to the development of these conditions. The teeth, jaws and face have been variable factors in evolution, and hence are most readily affected by the forces tending to degeneracy; such conditions are easily affected by the factors arising out of the 'struggle for existence.'

"The law of the 'survival of the fittest' affects not only the entire organism but also the parts themselves. Some one part attains undue development. Such a product of degeneracy once obtained might, under proper conditions, remain, while the rest of the body returned to the normal type."

In dealing with the development of the jaws, Dr. Talbot has spared no pains to make his statistics complete, and in order to do so has pressed into his service many well-known men both in Europe and America, while observers in India and China have also contributed their share of the task. Some idea of the thoroughness of this investigation may be had from the fact that, in order to compare the relative sizes of the lateral diameter of older races and persons living at the present time, over 10,000 measurements were taken; these include an examination of the collections of skulls in the principal museums on both sides of the

Atlantic, and comprise Ancient Britons, Ancient Egyptians, and native races from the four quarters of the globe.

Not content with these measurements the author has also, in separate tables, given us the antero-posterior diameters and the height of the vault, these latter measurements being taken with ingenious little instruments specially devised by Dr. Talbot for this purpose.

The author, in tracing the association of physical degeneration with the criminal classes, has made some interesting observations on the anomalies found in prostitutes, showing that these women are quite a class in themselves, presenting marks of arrest of development and physical and mental degeneracy.

The cases that were examined for this purpose were not (Dr. Talbot tells us) specially selected but taken at random as the cases occurred in hospital, and from those which were undisfigured by syphilis.

Thus, in 150 prostitutes, the following abnormalities were noted:—

" Malformations of the head	-	-	-	62	women
Development of occipital protuberance	-	-	-	62	"
Very receding foreheads	-	-	-	18	"
Hydrocephalic	-	-	-	15	"
Various anomalies of face (prognathism, &c.)	-	-	-	64	"
Ogival palatine vault	-	-	-	38	"
Congenital division of palate	-	-	-	14	"
Vicious implantation of teeth	-	-	-	62	"
Hutchinson's and Parrot's teeth	-	-	-	19	"
Absence of lateral incisors	-	-	-	10	"
Badly margined ears (Morel)	-	-	-	16	"
Defective ears (deformed, &c.)	-	-	-	47	"
Anomalies of extremities	-	-	-	8	"
Local asphyxia	-	-	-	2	"

The comparison of these cases with educated women and illiterate peasants is interesting, as 82 per cent of the prostitutes present more than a single anomaly at the same time, while among educated women there is found only 2 per cent of anomalies, and in the peasant class 14 per cent.

That modern anatomists have not quite mastered all that might be known about the antrum will be evident from a casual glance at Dr. Talbot's chapter on this very interesting subject.

The author begins by stating that to describe the antrum was

one of the most difficult tasks he had ever undertaken, and we have no difficulty in believing him, for while he gives many examples of what he considers abnormalities and evidences of degeneracy, we quite fail to perceive any hint as to what he considers a normal antrum should be with regard to size and shape; this is decidedly an omission, and doubtless one which the author will rectify in a future edition. However, there is much information contained in the chapter which will tend to correct many of our ideas as to the extent and possible variations in size and form of this cavity. That Dr. Talbot had unusual facilities for investigating the antrum may be gathered from the fact that he made an examination of 6,000 antra, and on the important point of where is the most suitable position to enter this cavity with a drill for purposes of drainage, he is decidedly of opinion that "always the safest locality to puncture the antrum is at a location just between the roots of the first permanent molar and the root of the second bicuspid. The opening should be made with a drill directed backward and inward. This part is nearly always on a level with the floor of the antrum, and the outer wall is very thin at that point." This position is slightly lower than that recommended by most operators, but it would certainly have the advantage of striking the antrum at its most dependant portion. The latter portion of this work includes important chapters on the causation of irregularities of the teeth. Like most American publications it is printed on good, toned paper, the type and illustrations being excellent.

A Syllabus of Lectures on Human Embryology; an Introduction to the Study of Obstetrics and Gynæcology for Medical Students and Practitioners. By WALTER PORTER MANTON, M.D. Philadelphia: The F. A. Davis Company; London: F. J. Rebman. 1894. Pp. 125.

THIS little book will be found very useful to both students and teachers of embryology. It consists of very good notes on embryology, which will serve either as headings for lectures or as an outline of the subject for students. It is well arranged, beginning with the anatomy of the female genitals; going on to the processes of spermatogenesis and oögenesis; next describing the general development of the embryo, the uterine and foetal membranes, placenta and utero-placental circulation; then giving the development of the special organs and parts, general considerations of the

child at birth, and changes in the maternal organism incident to pregnancy.

We might perhaps object that the embryology proper is rather too short in proportion to the other parts of the work, but we must remember that the work is an introduction to obstetrics and gynecology and not a work on embryology *per se*. The text is illustrated with outline drawings borrowed from the best sources, and the pages are interleaved with blank paper for notes. A useful chapter on practical embryological work is given, and the volume concludes with a glossary of terms used in embryology, and a good index.

"PHOBIE."

THE *Boston Medical and Surgical Journal* notices a recent work of M. Gelineau on "Unhealthy Fears or Phobias." A complete list of these morbid mental conditions is given. "They are aichmophobia, or fear of sharp points, as of needles or pins; agoraphobia, or fear of open spaces, with a sub-variety: thalassophobia, or dread of the ocean; astrophobia, or fear of the stars and celestial space; claustrophobia, or fear of enclosed spaces; mysophobia, or fear of filth; hematophobia, dread of blood; necrophobia, or horror of dead bodies; thanatophobia, or dread of death; anthropophobia, or fear of crowds; monophobia, a fear of being left in solitude; bacillophobia, or fear of microbes; siderodromophobia, or dread of railways; pathophobia, or fear of disease, with many subdivisions, of which the most important and most frequent are anginophobia (fear of angina pectoris), ataxophobia, syphilophobia, lyssophobia (or fear of rabies), spermatophobia and zoöphobia (or fear of animals), which in its turn has subdivisions for cats, dogs, horses, mice, &c., *ad totum catalogum animalium*. Returning to the list, we find still kleptophobia, fear of becoming a kleptomaniac; pyrophobia, fear of matches; stasophobia, dread of standing upright; aërophobia, or dread of draughts of air; acrophobia, fear of high places; toxicophobia, a fear of poisons; demonophobia, a dread of the devil (this is rather rare). There are also a very great number of phobias peculiar to certain professional persons, as physicians, artists, merchants, which have yet to be Hellenized and classified. The culminating fear, however, the quintessence of dread, is the fear of having a fear, the dread of a dread, or phobophobia."

CHILBLAINS.

TINCTURE of digitalis, 6 grammes; thymol, 3 grammes; alcohol, 150 grammes; glycerine, 150 grammes. Mix. To be rubbed to the affected part.—*Les Nouveaux Remèdes*, No. 16.

PART III.

SPECIAL REPORTS.

REPORT ON THE PROGRESS OF SURGERY.

By R. GLASGOW PATTESON, B.Ch., Univ. Dubl.; Fellow and Member of the Court of Examiners, R.C.S.I.; Surgeon and Surgeon in charge of the Skin Department, St. Vincent's Hospital; Examiner in Pathology, Conjoint Scheme, Apothecaries' Hall.

SYNOPSIS:

- I. MULTIPLE ADENOMATA OF THE RECTUM.**
- II. CASTRATION FOR SENILE HYPERPLASIA OF THE PROSTATE.**
- III. HÆMATOMA OF THE STERNO-MASTOID AND TORTICOLLIS.**
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- VII. ANTISEPTIC AND ASEPTIC SURGERY.**

THE progress of surgery, perhaps more than that of any other science, is essentially volcanic in character. Periods of abnormal activity are followed by periods of prolonged and equally abnormal quiescence. It is through just such a period of latency that we have been travelling during the past year, so that there is nothing of striking interest or of dazzling brilliancy to record. Nevertheless, the hidden fires have not been idle, and in many directions advances of permanent, if unheeded, benefit have been made. Operations which twelve months ago were tentatively put forward have been placed on a recognised basis as sound surgical procedures; while others, which were heralded in with loud acclaim, have passed away and joined the wandering shades that stalk by the troubled waters of the surgical Styx.

I. MULTIPLE ADENOMATA OF THE RECTUM.

This is a comparatively rare affection of the mucous membrane of the lower bowel (the so-called "mucous polypi"), and one that, so far as a limited search in surgical records shows, has not hitherto been brought within the domain of operative surgery. A brief.

reference to the following case, published by Dr. Gerster, of New York, in the *Transactions of the American Surgical Association*, Vol. XI. p. 138, will therefore prove of interest. "The patient, a poorly nourished, anæmic boy of eighteen, stated that he had been suffering from pain and protrusion of a tumour on defæcation since about (*sic*) twelve years, the trouble becoming worse continually. Examination under anæsthesia showed that the rectal pouch was literally crowded full of soft, easily bleeding, pedunculated masses, the upper limit of which could not be reached by the finger. The sphincter being lax, it was very easy to evert the lowermost part of the rectum, when the protruding masses appeared to be as large as a large fist. They consisted of innumerable single and lobulated tumours, which were attached by pedicles of varying thickness to the rectal wall, and so close to each other that it was difficult to find even a small patch of normal mucous surface. All of these masses which could be conveniently reached by the aid of two Sims' vaginal specula were either burnt off at their base with the thermo-cautery, or, where their pedicles were rather massive, were first tied off and then removed. A careful microscopical examination of the neoplasms showed them to be true adenomata. The patient's wretched condition forbade a further extension of the measures directed against the neoplasms on that occasion. Under forced feeding matters improved so much that, four weeks after the first operation, a second, more extensive, attempt was deemed expedient. The coccyx and lower half of the sacrum being exposed by a median incision, the former and the lower segment of the latter up to the third sacral foramen were removed. The rectum was then laid open by an incision extending just from above the sphincter to the stump of the sacrum, whereupon the organ became very accessible by means of broad retractors. The adenomata, located well up in the sacral excavation, were then removed, either by ligature, or those that were attached by a broad base by the actual cautery. As a relapse was probable, the wound was left open to permit of a continuous supervision of the site of the disease, or eventually of a repetition of the treatment. This observation was carried on for two months subsequently, and a number of adenomatous nodules were again and again destroyed. Should the tendency to relapse not diminish, an extirpation of the diseased part of the gut will have to be considered, otherwise the gut will be closed by a longitudinal suture." In a note Dr. Gerster informs us that a plastic closure of the longitudinal incision was

subsequently done; but no further details of the case as to the condition of the bowel after the operation, or as to subsequent recurrence are so far forthcoming. These will be of extreme interest. Another point to which the author does not refer is the reason for undertaking such an extensive and serious operation. One can only presume, from the account given, that the extreme anæmia referred to was due to hæmorrhage from these growths; of course if that was the point of danger it required some such heroic treatment. Resection of portion of the sacrum along with the coccyx is now a recognised procedure in many cases of high malignant growths in connection with the bowel, but this is the first occasion, so far as can be gathered, in which it has been applied to the operative treatment of benign neoplasms of the rectum.

II. CASTRATION FOR SENILE HYPERPLASIA OF THE PROSTATE.

This subject was first brought forward at a meeting of the American Surgical Association in a most complete and suggestive essay by Dr. J. William White, of Philadelphia, published in Vol. XI of the *Transactions*, p. 167, sqq., 1893. After a most exhaustive review of the literature of prostatic enlargement, the author dealt with the present position of surgery in regard to its treatment, entering fully into the various operative procedures that have been from time to time recommended either for its relief or permanent cure. A short account of the development of the bladder and prostatic portion of the urethra was given, and reference made to the analogy first pointed out by Velpeau, and subsequently emphasised by Sir Henry Thompson, between uterine fibro-myomata and the so-called "prostatic hypertrophy." Dr. White's attention was further drawn in this direction by the observations of John Hunter on castration in the bull, in which he found, as the result of the operation, that the prostate from being "soft and bulky" became "small, flabby, tough, and ligamentous."^a Similar results in other animals were recorded in a paper published by Dr. Joseph Griffiths in the *Journal of Anatomy and Physiology* for 1890. While Dr. Griffiths' paper was primarily written with the object of proving that the prostate is in its essential significance a sexual and not a urinary organ, he in it incidentally

^a Hunter does not explain in his remarks how an organ can be "tough and ligamentous," and, at the same time, "flabby." Perhaps we must excuse a little looseness in the use of qualifying adjectives.

alluded, as part of his case, to the effects that resulted from castration in eunuchs, dogs, cats, pigs, bullocks, sheep, and horses. "The behaviour of these accessory sexual glands" [*i.e.*, the prostate], he writes, "after the removal of the testes will, I think, enable us to decide whether, on the one hand, they are developed in relation to the generative function, and entirely owe their existence to the generative stimulus, or, on the other hand, whether they arise independently of the testes and are essentially developed in functional relation to the urethral, and serve to produce a secretion which has for its purpose the moistening of that channel."^a The results of Dr. Griffiths' observations went entirely to prove the former hypothesis, and he found in all the cases of castration in these animals considerable diminution in size of the prostate gland with marked atrophy of its glandular and muscular elements, only traces of the former being left as islets amid dense bands of fibrous connective tissue. These observations were strengthened by cases previously published by Gruber and Bilharz showing the results on the prostate produced by castration in men.

Arguing then from these two postulates—1st, That "the growth, or growths, which made up the enlargement in prostatic hypertrophy, are analogous to those fibro-myomata so frequently found in the uterus," and if so the results of castration ought to be similar to those observed to follow oöphorectomy in the case of the uterine growths; and 2nd, That the recorded evidence in man and animals showed a decided shrinking of the prostate gland to be one of the constant results of castration; Dr. White instituted a control series of experiments in dogs as a preliminary to the adoption or suggestion of castration as a surgical procedure in these cases of senile enlargement of the gland. Thirty-five dogs and their prostates were weighed, and the average weight—15·37gr.—was taken as the standard. Dogs were then castrated and killed at varying intervals, and the prostates were carefully examined both macroscopically and microscopically. The results obtained were striking. In every case, even much sooner than was anticipated, there was a marked and rapid decrease in the size of the gland, associated with a diminution in weight of from 15 to 2·4 grammes. At the same time it was found microscopically that there was an almost complete atrophy of the glandular and muscular elements, the glandular suffering first and most markedly. Hence, as the result

^a Loc. cit., p. 82.

of these experiments, and of the evidence very briefly reviewed above, Dr. White thought himself justified in at least suggesting operation in suitable cases, and put forward these two propositions:—

“(1) Does the evidence warrant us in believing that castration in cases of hypertrophied prostate would be followed by a disappearance or diminution of the growth?

“(2) If so, it is likely that the fact can ever be taken advantage of as a therapeutic measure?”

Naturally Dr. White's somewhat revolutionary and revulsive proposal was provocative of much discussion, and an answer to his second question was not long in forthcoming. As the subject is only in its infancy, and anything that throws light on it is at once helpful and instructive, a brief summary of all the recorded cases is here appended:—

CASES I. and II.—Ramm (*Centralblatt f. Chirurgie*, No. 35), operated in April, 1893, on two cases with the most encouraging results, as he reports so marked an improvement as to amount to a practical cure in both cases.

III., IV., V.—Haynes of Los Angeles, California, reports in March, 1894, three cases operated on in December, 1893. The first case was of two years standing; symptoms apparently not very severe; cured. The second was a bad case which required catheterism every two hours, in addition to which the patient had contracted the morphin habit in order to obtain relief from his intolerable sufferings. The cystitis was extreme. Results: Cystitis cured; catheter only necessary four or five times daily; complete recovery from morphinism, and marked improvement in general health. The third case was one in which the disease was in an early stage, but on account of the peculiar conformation of the prostate catheterism was impossible. The result was a complete cure.

It may be mentioned here that in one additional case Haynes, as an alternative measure, performed section of the vasa deferentia, but without any alleviation of symptoms. This is interesting in connection with a case in which Mr. Reginald Harrison, though strongly urged by his patient to perform castration, temporised by performing ligature of the vasa deferentia, and although the patient was alive several years after the operation, and reported

"well," no details are given as to the condition of the prostate gland.^a

VI.—Dr. F. Smith, of Florida, operated on a very extreme case of prostatic obstruction, with bad cystitis. Fifteen weeks after the operation the cystitis was cured, urination was normal, and the patient had gained forty-five pounds in weight.

VII.—Dr. J. W. White, Jan., 1894.—In this case there was intense cystitis, all the urine being passed by the aid of a catheter and extremely offensive. The prostate was the size of an orange. Fourteen weeks after the operation the prostate was reduced to its normal size, and the urine was normal in every respect, but the power of emptying the bladder had not up to that period been regained. Further details of this case are wanting.

VIII.—This case, operated on by Dr. Powell, hardly comes within the true category of these we are considering, as the operation of castration was performed for a totally different cause. It was, however, followed by complete relief of the symptoms due to prostatic enlargement.

IX.—Mayer, in May, 1894, operated on a man, aged seventy, with cystitis, ammoniacal urine, tenesmus, and toxæmia, in whom catheterism was rapidly becoming impossible on account of pain and the size of the growth. Three weeks after the operation the urine was nearly normal in character, and the prostate was dwindling in size. Six weeks after operation the prostate had

^a Meyer (*Annals of Surgery*, July, 1894), describes a case in which he ligatured the internal iliac arteries (Bier's method) for hypertrophied prostate in a man aged 55, who had had marked urinary trouble for over four years, and whose urine was purulent. Twelve hours after the operation the patient passed urine voluntarily for the first time within six months. There was marked atony of the bladder, yet continuous retention never set in again. The prostate became smaller, and the length of the urethra became reduced from $23\frac{1}{2}$ to $21\frac{1}{2}$ centimetres in six months (*B. M. J. Supplement*, Aug. 18, 1894). It may here be mentioned that in the discussion which took place on Dr. White's paper at the meeting of the American Surgical Association, Dr. J. Ewing Mears, of Philadelphia, suggested the alternative procedure of ligaturing the vasa deferentia. Dr. Mears further read a paper on this subject before the Philadelphia Academy of Surgery in November, 1894, advocating this procedure as an alternative mode of treatment in extreme cases of hypertrophied prostate, and urging that it was applicable in these cases where patients had a sentimental repugnance to castration. We do not see the difference, from a psychological point of view, between producing impotence by ligature of the vasa deferentia and by castration, and moreover, from the surgical point of view, we have yet to receive evidence as to the benefit of ligature, as those cases in which it has been tried hitherto have yielded none or negative results so far as the prostatic disease was concerned.

shrunk to its normal size, and the bladder was able, unassisted, to completely evacuate its contents, no catheter being used.

X.—Mansell Moullin reports a case in a man aged eighty-one, for whose relief supra-pubic aspiration had been several times called in requisition. After castration the improvement was immediate. In ten days the prostate was appreciably smaller, and in three weeks it had “practically disappeared.” The bladder had begun to regain power, and the urine was nearly normal.

XI.—Thomas reports a case of fifteen years’ standing, the patient being sixty-five years of age. There had been considerable distress before the operation, and after it there was considerable improvement, the patient only requiring to urinate three times a day. This case is very meagre in its details.

XII.—This case is reported by Dr. Ricketts. The patient was seventy-four years of age, and had suffered for some time. Improvement followed the operation almost immediately, the patient stating he had not had such ease for a year; he could sleep for four hours at a stretch, whereas formerly he had been compelled to get up every hour or oftener, micturition being necessary about thirty times daily.

XIII.—The last case on our list is only reported in the *British Medical Journal* of Jan. 5, 1895, by Mr. Swain. The patient was seventy-three years of age, and has suffered for five years from prostatic obstruction. Catheterism became impracticable, and as a last resource castration was performed. Three weeks after the operation a perceptible diminution in the size of the prostate was noticed; “but in the third, fourth, and fifth weeks the increasing atrophy appeared to progress more rapidly. . . . At this time his general condition had much improved; his urine was normal—he sometimes passed half a pint at a time—but he could not hold his water for more than four or five hours in the daytime. There was no ‘residual urine’ in the bladder.” The prostate meanwhile had diminished from the size of an orange to that of a large horse chestnut. Thirteen weeks after the operation the prostate was still smaller and firmer; the patient was able to dispense with a catheter, and did not require to get up at night to pass water; and the urine had completely returned to its normal characters. There was no cystitis.

These cases—all on record up to the present time—certainly form a striking object-lesson in the treatment of this most distressing of all the surgical complaints to which old age is liable. So

far, it must be admitted the results are encouraging. The strongest objection to the operation appears to be the sentimental one. But few healthy-minded men will, we imagine, object to the removal of appendages which have long ceased to be useful, when weighed in the balance with the life-long misery and torture caused by prostatic enlargement. It is only those who are the victims of a *psychopathia sexualis* who will preserve the reminiscences of past virility at the cost of a present and future bodily and mental enfeeblement. As Dr. White justly observes in summing up his remarks:—"There will be no lack of cases willing to submit to an operation almost painless, with a low mortality, and followed by no such unpleasant conditions as accompany persistent fistulous tracts, either supra-pubic or perineal, even although the operation carries with it the certainty of sacrificing whatever sexual power has survived the excessive, and often intolerable, suffering of such patients."

III. HÆMATOMA OF THE STERNO-MASTOID AND TORTICOLLIS.

The "chronic induration," or "tumour" of the sterno-mastoid muscle, as it has been variously named, is now generally recognised—since the publication of papers by Smith, Clutton, and earlier by Stromeyer, Dieffenbach, and others—to be due to a rupture of the fibres of the muscle, generally occurring at childbirth, and giving rise to a localised effusion of blood, or *hæmatoma*, with subsequent organisation and shrinkage of the fibrous tissue thus produced. In a recent paper (*Trans. Medico-Chirurg. Soc.*, 1894), Mr. D'Arcy Power points out the importance of this condition in relation to wry-neck. The age of "syphilitic induration" and grey powder is past; but many of these cases, as Mr. Power points out, pass on into a stage requiring surgical interference, when a certain degree of torticollis results from the subsequent shrinking of the new-formed scar-tissue. In this paper Mr. Power has collected 106 cases. In these "the swelling was situated in the upper and middle parts of the muscle in twenty-two, in the lower part in thirteen, in one the whole muscle was affected, whilst in the remaining cases the exact position is not noted. In connection with statistics, it may be as well to add here that in these 106 cases, recorded by English, American, German, French, and Belgian surgeons, the right sterno-mastoid muscle was the seat of injury forty-seven times, the left thirty-six times, and in five it was bilateral." Mr. Power then proceeds to enumerate the

cases in which wry-neck followed this condition, giving details of a series of cases of his own and others—principally Mr. Clutton's. As the result of his analysis he finds that "well-marked wry-neck occurred in 21 cases at least, out of a total of 106 cases of congenital hæmatoma which are recorded." As Mr. D'Arcy Power's paper gives the most recent conclusions that have been formulated on this much-debated subject, it may be well to transcribe them here in full:—

"1. Hæmatoma of the sterno-mastoid muscle may be due to intra-uterine injuries, which are rare, or to injuries at the time of birth, which are common.

"2. Congenital hæmatoma of the sterno-mastoid muscle occasionally predisposes to wry-neck in children who are otherwise healthy.

"3. Wry-neck due to hæmatoma of the sterno-mastoid varies in degree from the slightest and most transient form to one of such severity as to require tenotomy of the muscle for its cure. The wry-neck thus produced is not—so far as I have seen—accompanied by asymmetry of the face.

"4. Every child who has the misfortune to be injured in this manner must be carefully watched for a much longer period of time than is usually considered necessary, to obviate any tendency to the formation of a wry-neck.

"5. Surgeons should give more prolonged attention to children affected with hæmatoma of the sterno-mastoid muscle, to enable them to determine still more accurately what are the usual and ultimate effects of the injury."

IV. CIRCULAR ENTERORRHAPHY FOR GANGRENOUS HERNIA.

In the *Annals of Surgery* for June, 1894, Dr. M'Cosh relates three cases in which the gangrenous portion of the bowel had been dealt with by excision and immediate approximation of the divided ends—a method which he holds to be much preferable to any of the mechanical or other devices for the direct or lateral apposition of the ends of the gut after partial excisions. Sutures alone, he considers, give the requisite amount of safety; and while agreeing in the general principle here laid down, we cannot help urging against it that but few operators have the necessary experience and the requisite manipulative dexterity to bring a case of direct suture of the intestine to a successful issue. On the ground of

incompetency alone some simpler devices must be admitted into the general surgeon's *armamentarium chirurgicum*.

In the first case a man, aged twenty-five, had suffered for four years from an inguinal hernia on the right side which had been supported by a truss, with complete relief, until one day the truss was left off, and at the end of three days the hernia had become irreducible, with signs of inflammation. Taxis under ether failed, and the patient being in a state of collapse with stercoraceous vomiting, operation was decided on. The patient made an excellent recovery.

In the second case, a lady, aged forty-three, had been operated on for tubercular peritonitis three years previously. The cure was apparently perfect, and no tendency to hernial protrusion was at any time noticed in the cicatrix. Suddenly the author was called in to operate on a strangulated hernia, the existence of which had only been determined three days previously. The patient was in an extremely dangerous condition, considerably collapsed, and for twelve hours the vomiting had been of a stercoraceous character. She made an excellent recovery from the operation; and it was noticed with interest at the time that not the slightest trace could be found of the former tubercular peritonitis.

The third, and last, case was also a woman, sixty-six years of age, in whom strangulation had existed for forty-eight hours. The operation proved a complete success, and six years afterwards the patient, notwithstanding her age (72), was reported to be well and active. (Quoted in *B. M. J. Supplement*, July 7, 1894).

These cases are certainly deserving of note for two reasons: in two of the cases the age of the patients was not such as would lead one to anticipate a favourable prognosis; but even more so was the period at which the operation was undertaken. In all the cases the obstruction had been left until the intestine was gangrenous, the vomiting stercoraceous, and the patient dangerously collapsed. Success under these circumstances makes one hopeful.

V. OPERATIONS FOR CANCER OF THE BREAST.

In my "Report on Surgery" in the number of this Journal for August, 1893, I went fully into the question of the operative treatment of cancer of the breast, and the methods best calculated to prevent its recurrence. I have before me now the "Johns Hopkins Hospital Reports" for 1894, in which there is a valuable paper, contributed by Dr. William S. Halsted, on the

operations performed for the relief of mammary cancer in the hospital from June, 1889, to January, 1894—practically a period of almost five years. The operation practised by him is, if possible, even more radical than that to which attention was previously drawn, as will be evident from a few quotations from Dr. Halsted's paper. The number of cases operated on was fifty.

The author bases his principles of treatment, speaking broadly, on the great fact that in the large majority of cases microscopic examination shows that either the pectoral fascia, or the pectoral muscle itself, is involved in the cancerous process, except in the earliest stages. This observation is as old as Volkmann's classical paper on the subject, and as it is ever new and ever true it may be quoted here in full:—"I make it a rule," wrote Volkmann, "never to do a partial amputation for cancer of the breast, but remove the entire breast even for the smallest tumours, and at the same time I take away a liberal piece of skin. The skin-defect is, of course, very great when one operates in this manner, and the wound, in consequence, requires a long time for healing. Furthermore, in making the lower incision I cut right down to the pectoralis muscle and clean its fibres, as I would for a class-room dissection, carrying the knife parallel with the muscular fasciculi and penetrating into their interstices. The fascia of the muscle is accordingly entirely removed. I was led to adopt this procedure because, in microscopical examination, I repeatedly found when I had not expected it that the fascia was already carcinomatous, whereas the muscle was certainly not involved. In such cases a thick layer of apparently healthy fat separated the carcinoma from the pectoral muscle, and yet the cancerous growth, in places demonstrable only with the microscope, had shown its roots among the fibrous septa down between the fat lobules, and had reached and spread itself out in flat islands in the fascia. It seems to me, therefore, that the fascia serves for a time as a barrier, and is able to bring to a halt the spreading growth of a carcinoma." Volkmann's views were supported by the observations of Heidenhain and by the physiological researches of Ludwig and Sweigger-Seidel. The latter, in studying the lymphatics of fasciæ and tendons, found that there is an intricate network of lymphatic vessels on the surface of muscles and on the upper side of all fasciæ. *The direction of the lymphatic current is from the muscle to the fascia*, and not in the reverse direction. Hence the importance of the temporary barrier that the pectoral fascia interposes in all

cases to the spread of mammary cancer, and hence also the importance of its entire removal in all cases dealt with operatively. Dr. Halsted goes a step further. He advocates the removal in all cases of the greater portion of the pectoral muscles, which is in reality a revival of a very old surgical procedure. In his recently published monograph on *Diseases of the Breast*,^a Mr. Roger Williams directs attention to the fact that these extreme radical operations, which were first extensively adopted in Germany and are ever being brought forth as new developments of up-to-date surgery in "the States," were really first formulated and practised by an English surgeon—Charles Moore, of St. Bartholomew's Hospital—and were by him communicated in a paper to the London Medico-Chirurgical Society, so far back as 1867, or more than a quarter of a century ago.^b "All its fundamental essentials," writes Mr. Williams, "were clearly set forth, with illustrative cases, in a paper remarkable for its keen insight and sound judgment Strange to relate, notwithstanding its completeness, the influence of this remarkable communication on contemporary surgical practice was almost *nil*—so difficult is it, in the hurly-burly of intellectual strife, to discriminate real merit." But if Dr. Moore's teachings were for a time relegated to the shelf and allowed to accumulate the dust of years, we have now at last the satisfaction of knowing that they are in every civilised country adopted as the fundamental basis of sound surgical practice.

The two essential dogmas laid down by Dr. Halsted, and printed by him in capitals, are here reproduced:—

"The pectoralis major muscle, entire or all, except its clavicular portion, should be excised in every case of cancer of the breast, because the operator is enabled thereby to remove in one piece all of the suspected tissues."

"The suspected tissues should be removed in one piece—(1) lest the wound become infected by the division of tissues invaded by the disease, or of lymphatic vessels containing cancer cells, and (2) because shreds or pieces of cancerous tissue might readily be overlooked in a piecemeal extirpation" (p. 10).

Dr. Halsted concludes his monograph by some interesting tables as to the comparative results obtained by partial and radical methods of operation. A brief summary of some of the more

^a London: John Bale and Sons. 1894.

^b On the Influence of Inadequate Operations on the Theory of Cancer.—Med. Chir. Trans. Vol. I., p. 245.

striking features may be recorded here. In Bergmann's clinic the percentage of local recurrence varied from 51 to 60; in Czerny's it was 62 per cent.; in Königs, 58-62 per cent.; in Volkmann's, 60 per cent.; in Lücke's, 66 per cent.; while in the author's fifty cases the percentage of local recurrence was 6, and of "regional recurrence," 22. These figures show in a striking way the benefits that may be expected in the future when the importance of total extirpation of the cancerous process, as opposed to the removal of the cancerous growth, has been more fully appreciated and more widely practised by operating surgeons. When one has seen the terrible misery and suffering caused by local and regional recurrences in cases of mammary cancer, where the disease had not been completely eradicated, one would gladly adopt any proceeding, even adding as it does materially to the gravity of the primary operation, that holds out the hope of relief from those terrors of mental anxiety and physical torture that render unendurable the last stages of that most insidious, probably, of all the Protean forms of malignant disease.

VI. TREATMENT OF ALOPECIA AREATA.

Though hardly a surgical affection in the proper sense of the term, alopecia areata is a disease of such wide diffusion, and comes so often under the care of the surgeon, that a brief reference to what has proved a most successful method of dealing with it may be of advantage and interest to many readers. Whether the *rationale* of the treatment is based on a theory of parasitic origin of the disease, or whether the results are due to the much simpler theory of counter-irritation, I know not; suffice it to say that pronounced benefit and absolute cure have followed from its application.

It is now two years and a half since I published in this Journal a note calling attention to the method recommended by Dr. L. Duncan Bulkley of New York, viz., the treatment of the affected patches with an almost pure (95 per cent.) solution of carbolic acid. The method of employing it I cannot do better than give in the author's own words: "A small swab of cotton wool on the end of a stick or wooden toothpick is employed, and having been dipped in the acid, is at first lightly brushed over the affected area, which is then afterwards well and firmly rubbed with the same for some seconds." The application should be extended for a little distance outside the affected area. At the time of publication I was unable

to speak from personal experience of this mode of treatment. I have now employed it in some ten cases, and in all with the most gratifying results. In many cases repeated applications, with of course the necessary intervals between each, are required, the strongest possible solution being employed; whereas, in other cases, only one or two of the strong applications are necessary, weaker ones being subsequently substituted. A good deal of pain, it must be admitted, is associated with this mode of treatment, but that, however, is as a rule gladly borne by the patients for cosmetic, if for no higher motives. A rather disappointing result occurred in two of my cases, in that the hair on the affected spot grew absolutely devoid of pigment, and the patients resented much the piebald appearance thus produced. However, fortunately in both cases, the hair after the lapse of some months, regained its normal hue *unaided*, much to my and the sufferers' relief. I have also found that painting with cocaine as a preliminary, without in any degree diminishing the efficacy of the carbolic acid, modifies in a very marked degree the pain that usually follows for some hours the application of the acid.

NOTE.—The Section on ANTISEPTIC AND ASEPTIC SURGERY has been unavoidably postponed, and will be published as a separate article.

MEDICAL MEN IN NEW SOUTH WALES.

IN the cities and larger townships of the colony there is no lack of competent medical men, but in the newer and more remote districts they are too often conspicuous by their absence, and it is by no means unusual for the inhabitants of such places to advertise their willingness to guarantee a certain amount of income to a resident doctor. An experienced medical man, willing to "rough it" for a few years, will attain a competency much more rapidly than in England, especially if devoted to his profession, and skilled in the treatment of complicated cases. Medical specialists possess a wide field in Australia, where institutions for the treatment of eye and ear diseases, &c., are practically unknown.

CONGRESS FÜR INNERE MEDICIN.

DR. BÄUMLER, Professor of Medicine in the University of Freiburg, Baden, as Chairman of the Executive Committee, announces that this year's Congress of Practice of Medicine will take place, from the 2nd to the 5th of April, inclusive, at Munich, under the presidency of Dr. von Ziemssen,

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.

General Secretary—W. THOMSON, F.R.C.S.I.

SECTION OF SURGERY.

President—THORNLEY STOKER, President of the Royal College of Surgeons of Ireland.

Sectional Secretary—KENDAL FRANKS, F.R.C.S.I.

Friday, December 7, 1894.

The PRESIDENT in the Chair.

Appendicectomy.

MR. MYLES read his paper on Appendicectomy, and gave details of two cases.

The first was that of a soldier, aged twenty-eight, who had been suffering from repeated attacks of appendicitis during the previous eight months; a small swelling had formed above Poupart's ligament in the right iliac fossa, and Mr. Myles cut down on this and found a thickened, curved, and adherent appendix, covered with a blanket of adherent omentum. The latter was divided between double ligatures and the appendix removed by the circular flap method. The patient made an uneventful recovery.

The second case occurred in a gentleman, aged twenty-seven, of remarkably fine physique. He had suffered from repeated attacks of pain, vomiting, &c., and had ultimately developed a swelling in the right iliac fossa. He refused operation at first, and when subsequently, owing to inability to practice his profession from repeated attacks of pain, he

consented to be operated on, the swelling had completely disappeared, but the localised tenderness was very marked. The operation was performed in the Private Hospital, Charlemont-street, and the cause of the pain was found in a number of flat, sharp-edged bodies, calcareous in character, lodged in a very long appendix. The appendix was removed as before, but in addition the stump was invaginated into the cæcum and the edges of the depression brought together with a few Lembert sutures. The result of the operation was a complete success. The sutures were removed on the 12th day, and on the 15th day the patient left the hospital. Since then he has led a very active life, is quite free from pain, and has gained over a stone in weight.

Mr. Myles discussed at some length the questions of diagnosis, time for operation, and the treatment of the parietal wound, so as to obviate the dangers of a ventral hernia occurring at the seat of operation.

THE PRESIDENT said that accuracy of diagnosis between typhlitis and perityphlitis was extremely difficult. When a diagnosis of appendicitis can be made, he agreed with Mr. Myles as to the propriety of early operation. He had lately seen a case in which, owing to neglect, a pericæcal abscess had formed, which had opened into the patient's bladder. Fortunately the case got well without having to open the peritoneum. With regard to suturing the abdominal wall, he also thought with Mr. Myles that it should be sutured in layers. He thought that the method of opening the abdominal wall by a flap was the best. Ventral hernia was then practically impossible.

MR. M'ARDEK said that an appendicitis which may be very simple to-day may be very serious to-morrow. The moment he knew acute appendicitis was present he would operate. With regard to the method of dealing with the appendix, he considered that there was no need of ligaturing the mucous membrane. If the peritoneum is sutured over the retracted mucous membrane, all has been done that is necessary. He followed Mr. Smith in making two oblique incisions through the serous membrane, peeling it back and amputating the central portion, consisting of mucous and submucous tissue and then uniting the serous coat by sutures. He agreed with Mr. Myles as to the suture of the parietal wound in layers. He did not think that the continuous suture was the best. He disagreed with the President about the flap-method. He thought that no skin flap would have any influence in preventing a hernia if the deeper part does not unite early. He thought that the practice of applying clip forceps to the peritoneum was a bad one, and certainly that the peritoneum should not be drawn by them into the abdominal wound, as it, caused protrusion of it which prevented the part uniting, and so caused ventral hernia.

MR. TOBIN thought that gouty inflammation occurring in the neighbourhood of the appendix was very liable to be mistaken for appendicitis.

Where the symptoms pass away by adopting anti-gouty remedies, he thought that probably the inflammation did not start in the appendix.

MR. A. J. SMITH still adhered to the old method of taking in the entire abdominal wall by interrupted sutures, but is careful to include the sponerosis, which generally retracts behind the skin and peritoneum in the suture. If he does so he finds that ventral hernia does not occur.

MR. CROLY thought that there was great difficulty in the diagnosis between perityphlitis and appendicitis. He mentioned a case which he had been called in to see. From the extreme dislike the patient had to his touching him he considered that suppuration was present, and that it had extended into the abdominal wall. He had no doubt that the inflammation arose from the cæcum. He operated, but before reaching the peritoneum pus came and the case subsequently got well. In another case which he saw there was difficulty in making out whether the patient had typhoid fever or inflammation round the cæcum. In the end an abscess formed which he removed by means of a trocar and cannula.

DR. PARSONS thought that it was not merely a matter of surgical interest. He considered that, even when a person was satisfied as to the diagnosis of appendicitis, still an operation was not always advisable, as 90 per cent. of the cases of appendicitis got well when treated medically by absolute rest and regulation of the diet. He thought that surgical interference was advisable in any of the three following cases—(1) in cases of recurrent attacks; (2) when there was a local formation of pus; (3) if there was reason to believe that perforation had occurred.

SIR W. STOKES thought that the opinion that abdominal pain in the region of the appendix, together with rise of temperature, justified a person opening the abdomen and excising the appendix, an exceedingly dangerous one. With reference to the closing of the abdominal wound he thought that one of the most important things was to fix similar tissues together, and that this could only be done by relays of deep sutures.

MR. MYLES, in replying, did not agree with Mr. M'Ardle about the time the operation should be performed. He thought that when a person was suffering from acute peritonitis that it was a very dangerous time to operate.

Adenoid Vegetations in the Naso-pharynx.

MR. KENDAL FRANKS read a paper on "Adenoid Vegetations in the Naso-pharynx." After giving a short *résumé* of the history of this condition, he described the usual symptoms which indicated the presence of these growths, and drew attention to the numerous reflex symptoms which were liable to be attributed to other causes, but which disappeared when the naso-pharynx was cleared. These adenoid vegetations were very frequently associated with hypertrophied tonsils, and with enlargement of the pharyngeal follicles. In cases where these growths gave

rise to troublesome symptoms, the only treatment for them was their removal. The most important point was to remove all the growths thoroughly. This he did not consider could be effectually done unless the patient were placed under the influence of chloroform. Nitrous oxide was not sufficient. He always adopted Rose's position, pushed the anæsthetic to the abolition of the faucial reflexes, scraped the growths away with Gottstein's curette, and plugged the post-nasal space with pledgets of cotton wool dipped in tannic acid. These pledgets were removed in a few moments whilst the patient was still under the chloroform, and all hæmorrhage was found to have stopped. He advised the removal of the tonsils, if enlarged, at the same time, and preferred Luer's guillotine to Mackenzie's. He, however, had the prongs removed from the guillotine and instead seized the tonsils with a forceps, which he exhibited, which drew the tonsil out of its bed previous to its division by the guillotine. He considered that there were few operations which gave such good results. He condemned the use of the artificial finger nail, and did not consider that the ordinary nail was sufficient for the purpose.

THE PRESIDENT thought that post-nasal growths were just as common among the better class of society as among the poorer. He considered that they were within the compass of every practising surgeon and did not alone belong to a throat specialist. He entirely agreed with the Secretary on the necessity of performing the operation, and disbelieved in any other treatment. He thought Mackenzie's guillotine an excellent instrument and had never injured the pillars of the fauces when using it. Speaking of anæsthetics he considered that there was a necessity for complete anæsthesia, but that a great mortality attended the use of chloroform in this operation. He considered that the remedy for that was Rose's position, with the head hanging over the end of the table, and which was adopted by nearly every surgeon of experience.

MR. WOODS said, with regard to the origin of post-nasal adenoids, that there was a tendency for adenoid tissue to develop in young people. In two cases of his he had found chronic laryngitis had been caused by them, as the air had not been properly warmed by going through the nose. He thought that Lowenberg's forceps had the disadvantage of being rather tedious and requiring two or three doses of the anæsthetic. Latterly he has used a modification of Gottstein's curette. He did not agree with Mr. Franks that the duration of the anæsthesia caused by laughing gas was not long enough. Still he himself preferred chloroform. His plan of operating was to have the chloroform administered till the cornea was anæsthetic, then to force open the mouth and put in a self-retaining gag. He then forced a piece of sponge on a forceps through the nostrils into the pharynx. The use of this was to open the nose, which, owing to long disease, might not be large enough to admit

the air. He never found it necessary to plug the posterior nares. The bleeding, which is at first severe, stops in a few seconds and does not recur. He allows his patients up on the day following the operation, and discharges them on the third day. He had relapses in two cases, which he does not think were due to want of thorough scraping away of the growths. He never saw any good result follow from medical treatment.

MR. DOYLE thought that post-nasal adenoids were accountable for a great many maladies. In operating he adopts Rose's position, and uses a curette placed more at right angles and not so flexible as that used by the Secretary.

SURGEON-MAJOR DALY mentioned a case where post-nasal adenoids had been mistaken for worms.

MR. KENDAL FRANKS, replying, had never found it necessary to dilate the nose. When he plugged the posterior nares he always removed the plugs within half a minute to a minute before the patient recovered from the anæsthetic. He considered that it helps to check the hæmorrhage especially as he put tannic acid on the plugs. He does not discharge his patients for a week after the operation. He objected to nitrous oxide gas not only on account of the short time of anæsthesia which it gives, but also because it causes a good deal of jactitation.

The Section then adjourned.

TOLYPYINE.

THE researches of A. Anjeszky (*Pesth Med. Chir. Pr.*) on antipyretics demonstrate that a gramme of tolypyine every two hours causes a fall of temperature of 0.5° to 0.8° Cent. The antipyretic action of tolypyine is certain and well-marked. According to the intensity of the fever the patients received from 1 to 4 grammes of tolypyine—a gramme every hour. The temperature was taken half an hour after the first dose, and afterwards every hour. In two hours the fall of temperature ordinarily was from 1° to 5° Cent. In moderate fevers 1 or 2 grammes sufficed to maintain apyrexia for 7 or 8 hours. In marked pyrexia it is necessary to give 3 or 4 grammes of tolypyine, but the effect is an apyrexial condition lasting from 10 to 15 hours. In one case 3 grammes of tolypyine given in the height of the fever caused a fall of temperature of from 40° Cent. to 36.8° Cent., and the patient rested in an apyrexial condition for 14 hours. It was not until 20 hours afterwards that the temperature again attained 40° Cent. In case of tubercle of the summits of the lung a dose of tolypyine produced a subnormal temperature (34° Cent.). Profuse sweating results from the use of the drug. As a rule it is well borne by patients, producing no digestive trouble, though two cases of vomiting are noted, and in one case it caused an attack of urticaria. It was found to have no effect on rheumatism or neuralgia.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.; F.R.C.P.I.;
F. R. Met. Soc.; Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS

For four Weeks ending Saturday, December 29, 1894.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns	Weeks ending				Towns	Weeks ending			
	Dec. 8.	Dec. 15.	Dec. 22.	Dec. 29.		Dec. 8.	Dec. 15.	Dec. 22.	Dec. 29.
Armagh -	28·0	21·0	14·0	28·0	Limerick -	26·7	23·9	22·5	12·6
Belfast -	20·7	25·8	26·7	22·1	Lisburn -	17·0	17·0	42·6	25·7
Cork -	22·8	29·8	29·1	19·4	Londonderry	20·4	14·1	26·7	12·6
Drogheda	30·7	8·8	26·4	39·5	Lurgan -	27·4	54·7	45·6	18·2
Dublin -	24·9	26·8	25·1	24·9	Newry -	16·1	16·1	16·1	20·1
Dundalk -	4·2	12·6	0·0	4·2	Sligo -	30·5	15·2	35·5	25·4
Galway -	11·3	7·6	7·6	26·4	Waterford -	7·5	10·0	30·0	30·0
Kilkenny	14·2	18·9	28·8	14·2	Wexford -	13·5	4·5	9·0	18·1

In the week ending Saturday, December 8, 1894, the mortality in thirty-three large English towns, including London (in which the rate was 19·4), was equal to an average annual death-rate of 20·2 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·1 per 1,000. In Glasgow the rate was 28·9, and in Edinburgh it was 18·6.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 22·2 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·1 per 1,000, the rates varying from 0·0 in eight of the districts to 5·6 in Limerick—the 19 deaths from all causes registered in that district comprising 1 from scarlatina, 2 from whooping-cough, and 1 from diarrhoea. Among the 107 deaths from all causes

registered in Belfast are 2 from measles, 3 from whooping-cough, 2 from diphtheria, 2 from enteric fever, and 2 from diarrhoea. The 33 deaths in Cork comprise 1 from scarlatina and 1 from whooping-cough. The 3 deaths in Waterford comprise 2 from diarrhoea.

In the Dublin Registration District the registered births amounted to 204—96 boys and 108 girls; and the registered deaths to 170—76 males and 94 females.

The deaths, which are 32 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 25·4 in every 1,000 of the population. Omitting the deaths (numbering 3) of persons admitted into public institutions from localities outside the district, the rate was 24·9 per 1,000. During the first forty-nine weeks of the current year the death-rate averaged 24·7, and was 2·6 under the mean rate in the corresponding period of the ten years 1884—1893.

The number of deaths from zymotic diseases registered was 22, being 11 over the low number for the preceding week, but 2 below the average for the corresponding week of the last ten years. The 22 deaths comprise 6 from small-pox, 1 from scarlet fever (scarlatina), 6 from influenza and its complications, 1 from whooping-cough, 1 from diphtheria, 2 from enteric fever, 3 from diarrhoea, and 1 from erysipelas.

The deaths from small-pox are those of a boy, 4 girls, and a woman, none of whom had been vaccinated.

Thirty-one cases of small-pox were admitted to hospital, being 6 under the admissions for the preceding week: 35 small-pox patients were discharged, 6 died, and 91 remained under treatment on Saturday, being 10 under the number in hospital at the close of the preceding week.

Nineteen cases of enteric fever were admitted to hospital, being 5 over the number admitted in each of the two weeks preceding: 8 enteric fever patients were discharged, 1 died, and 90 remained under treatment on Saturday, being 10 over the number in hospital on that day week.

The hospital admissions included, also, 9 cases of scarlatina, against 12 in the preceding week and 24 in the week ended Saturday, November 24: 5 patients were discharged, and 99 remained under treatment on Saturday, being 4 over the number in hospital at the close of the preceding week.

The number of deaths from diseases of the respiratory system registered was 36, being 8 over the number for the preceding week, but 13 under the average for the 49th week of the last ten years. The 36 deaths comprise 24 from bronchitis, 8 from pneumonia or inflammation of the lungs, and 2 from pleurisy.

In the week ending Saturday, December 15, the mortality in thirty-three large English towns, including London (in which the rate was 18·6), was equal to an average annual death-rate of 19·7 per 1,000

persons living. The average rate for eight principal towns of Scotland was 22·5 per 1,000. In Glasgow the rate was 24·7, and in Edinburgh it was 21·1.

The average annual death-rate in the sixteen principal town districts of Ireland was 24·5 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·0 per 1,000, the rates varying from 0·0 in eight of the districts to 14·0 in Armagh—the 3 deaths from all causes registered in that district comprising 2 from whooping-cough. Among the 133 deaths from all causes registered in Belfast are 1 from measles, 1 from scarlatina, 1 from whooping-cough, 1 from diphtheria, 4 from enteric fever, and 1 from diarrhoea. The 43 deaths in Cork comprise 1 from scarlatina and 1 from diarrhoea.

In the Dublin Registration District the registered births amounted to 172—84 boys and 88 girls; and the registered deaths to 182—82 males and 100 females.

The deaths, which are 22 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 27·1 in every 1,000 of the population. Omitting the deaths (numbering 2) of persons admitted into public institutions from localities outside the district, the rate was 26·8 per 1,000. During the first fifty weeks of the current year the death-rate averaged 24·8, and was 2·6 under the mean rate in the corresponding period of the ten years 1884–1893.

The number of deaths from zymotic diseases registered was 22, being equal to the number registered during the preceding week, but 2 below the average for the corresponding week of the last ten years. The 22 deaths comprise 5 from small-pox, 1 from measles, 1 from scarlet fever (scarlatina), 3 from influenza and its complications, 4 from whooping-cough, 4 from enteric fever, and 3 from diarrhoea.

The deaths from small-pox are those of 1 man and 2 women vaccinated, and of 2 boys who had not been vaccinated.

The number of cases of small-pox admitted to hospital was 86, being 55 over the admissions for the preceding week: 56 small-pox patients were discharged, 5 died, and 116 remained under treatment on Saturday, being 25 over the number in hospital on Saturday, December 8.

Thirteen cases of enteric fever were admitted to hospital, being 6 under the admissions for the preceding week. Seventeen enteric fever patients were discharged, 2 died, and 84 remained under treatment on Saturday, being 6 under the number in hospital at the close of the preceding week.

The hospital admissions included, also, 18 cases of scarlatina, against 9 for the preceding week: 22 patients were discharged, and 95 remained under treatment on Saturday, being 4 under the number in hospital at the close of the preceding week.

Deaths from diseases of the respiratory system, which had risen from 28 for the week ended December 1 to 36 for the following week, further rose to 48, but this number is 7 below the average for the 50th week of the last ten years. The 48 deaths comprise 30 from bronchitis and 12 from pneumonia or inflammation of the lungs.

In the week ending Saturday, December 22, the mortality in thirty-three large English towns, including London (in which the rate was 17·3), was equal to an average annual death-rate of 18·2 per 1,000 persons living. The average rate for eight principal towns of Scotland was 21·7 per 1,000. In Glasgow the rate was 23·3, and in Edinburgh it was 20·8.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 25·6 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·8 per 1,000, the rates varying from 0·0 in nine of the districts to 9·1 in Lurgan—the 10 deaths from all causes registered in that district comprising 2 from measles. Among the 138 deaths from all causes registered in Belfast are 1 from measles, 8 from whooping-cough, 1 from diphtheria, 2 from simple continued fever, 3 from enteric fever, and 3 from diarrhoea. The 42 deaths in Cork comprise 1 from scarlatina and 1 from whooping-cough. Of the 16 deaths in Limerick 2 were from whooping-cough. The 17 deaths in Londonderry comprise 1 from diphtheria and 2 from whooping-cough. The Registrar for Lisburn District remarks—"Three cases of scarlatina from one house sent to hospital."

In the Dublin Registration District the registered births amounted to 155—86 boys and 69 girls; and the registered deaths to 178—94 males and 84 females.

The deaths, which are 20 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 26·5 in every 1,000 of the population. Omitting the deaths (numbering 10) of persons admitted into public institutions from localities outside the district, the rate was 25·1 per 1,000. During the first fifty-one weeks of the current year the death-rate averaged 24·8, and was 2·6 under the mean rate in the corresponding period of the ten years 1884—1893.

Twenty-six deaths from zymotic diseases were registered, being 4 over the number for the preceding week, and 2 above the average for the corresponding week of the last ten years. The 26 deaths comprise 6 from small-pox, 1 from scarlet fever (scarlatina), 1 from influenza, 5 from whooping-cough, 7 from enteric fever, 3 from diarrhoea and 2 from erysipelas.

The deaths from small-pox are those of a man and 2 women vaccinated, and of a man and 2 children who had not been vaccinated.

The number of cases of small-pox admitted to hospital was 113, being 27 over the admissions in the preceding week: 91 small-pox patients were discharged, 7 died, and 131 remained under treatment on Saturday, being 15 over the number in hospital on Saturday, December 15.

Only 10 cases of enteric fever were admitted to hospital, being 3 under the admissions in the preceding week, and 9 below the number in the week ended December 8. Nineteen enteric fever patients were discharged, 4 died, and 71 remained under treatment on Saturday, being 13 under the number in hospital at the close of the preceding week.

The hospital admissions included, also, 26 cases of scarlatina, being an increase of 8 as compared with the admissions for the preceding week: 40 patients were discharged, 2 died, and 79 remained under treatment on Saturday, being 16 over the number in hospital at the close of the preceding week.

Deaths from diseases of the respiratory system, which had risen from 36 for the week ended December 8 to 48 for the following week, fell to 42, or 2 below the average for the 51st week of the last ten years. The 42 deaths comprise 28 from bronchitis and 10 from pneumonia or inflammation of the lungs.

In the week ending Saturday, December 29, the mortality in thirty-three large English towns, including London (in which the rate was 17·2), was equal to an average annual death-rate of 18·0 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·1 per 1,000. In Glasgow the rate was 24·5, and in Edinburgh it was 17·2.

The average annual death-rate in the sixteen principal town districts of Ireland was 22·3 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 1·9 per 1,000, the rates varying from 0·0 in twelve of the districts to 9·1 in Lurgan—the 4 deaths from all causes registered in that district comprising 2 more from measles. Among the 114 deaths from all causes registered in Belfast are 2 from scarlatina, 2 from whooping-cough, 1 from enteric fever, and 3 from diarrhoea.

In the Dublin Registration District the registered births amounted to 133—77 boys and 56 girls; and the registered deaths to 170—80 males and 90 females.

The deaths, which are 53 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 25·4 in every 1,000 of the population. Omitting the deaths (numbering 3) of persons admitted into public institutions from localities outside the district, the rate was 24·9 per 1,000. During the fifty-two weeks ending with Saturday, December 29, the death-rate averaged 24·8, and

was 2·7 under the mean rate in the corresponding period of the ten years 1884–1893.

Twenty-seven deaths from zymotic diseases were registered, being 1 over the number for the preceding week and also 1 over the average for the corresponding week of the last ten years. The 27 deaths comprise 10 from small-pox, 2 from scarlet fever (scarlatina), 2 from influenza and its complications, 3 from whooping-cough, 3 from enteric fever, 3 from diarrhoea, and 2 from erysipelas.

The deaths from small-pox are those of 3 persons vaccinated, of 6 unvaccinated, and of one person in whose case no statement was made as to vaccination.

Thirty-two cases of small-pox were admitted to hospital, being 81 under the admissions for the preceding week: 14 small-pox patients were discharged, 8 died, and 141 remained under treatment on Saturday, being 10 over the number in hospital on Saturday, December 22.

Since the appearance of this disease in July last the deaths from it within the Dublin Registration District have, for each week from the 21st July to the 29th December, been respectively 1, 0, 1, 1, 3, 6, 0, 1, 2, 0, 2, 4, 2, 2, 4, 1, 4, 3, 1, 3, 6, 5, 6, and 10, making a total of 68 deaths, all except one of which occurred in hospital. The admissions to hospital during the same period have been 0, 4, 9, 26, 37, 14, 16, 16, 12, 13, 19, 8, 8, 28, 15, 28, 37, 24, 18, 37, 31, 86, 113, and 32 weekly.

The number of cases of enteric fever admitted to hospital was 11, being 1 over the number for the preceding week, but 2 under the admissions for the week ended December 15: 13 enteric fever patients were discharged, 2 died, and 67 remained under treatment on Saturday, being 4 under the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 7 cases of scarlatina, being a decrease of 19 as compared with the admissions for the preceding week: 7 patients were discharged, and 79 remained under treatment on Saturday, being equal to the number in hospital on Saturday, December 22.

Deaths from diseases of the respiratory system amounted to 37, being 21 below the average for the corresponding week of the ten years 1884–1893, and 5 under the number for the preceding week. The 37 deaths comprise 22 from bronchitis and 13 from pneumonia or inflammation of the lungs.

METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat 53° 20' N.,
Long. 6° 15' W., for the Month of December, 1894.*

Mean Height of Barometer,	-	-	-	29.980 inches.
Maximal Height of Barometer (on 27th, at 4 p.m.),	-	-	-	30.805 "
Minimal Height of Barometer (on 21st, at 11 30 p.m.),	-	-	-	29.144 "
Mean Dry-bulb Temperature,	-	-	-	43.0°.
Mean Wet-bulb Temperature,	-	-	-	41.3°.
Mean Dew-point Temperature,	-	-	-	39.8°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	-	.244 inch.
Mean Humidity,	-	-	-	87.2 per cent.
Highest Temperature in Shade (on 18th),	-	-	-	56.8°.
Lowest Temperature in Shade (on 31st),	-	-	-	27.9°.
Lowest Temperature on Grass (Radiation) (on 31st),	-	-	-	22.0°.
Mean Amount of Cloud,	-	-	-	62.5 per cent.
Rainfall (on 18 days),	-	-	-	1.511 inches.
Greatest Daily Rainfall (on 23rd),	-	-	-	.217 inch.
General Directions of Wind,	-	-	-	W., S.W.

Remarks.

The earlier part of the month was characterised by anticyclonic conditions, and was quiet, chiefly fine, with a good deal of fog. From the 9th onward, the distribution of atmospheric pressure was cyclonic. Gradients were, however, at first slight. Afterwards several depressions of remarkable depth and intensity passed across North-Western Europe—the systems observed on the 22nd and 29th being especially noticeable for the suddenness of their approach, the tempests which accompanied them, and the havoc which they wrought. As in 1893, the month closed with a cold spell, northerly gales bringing falls of sleet, hail and snow to most parts of Western Europe.

In Dublin the arithmetical mean temperature (43.9°) was decidedly above the average (41.3°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 43.0°. In the twenty-nine years ending with 1893, December was coldest in 1878 (M. T. = 32.8°), and in 1874 (M. T. = 36.8°), and warmest in 1865 (M. T. = 46.2°). In 1886, the M. T. was as low as 37.9°; in the year 1879 (the "cold year") it was also 37.9°. In 1887, the M.T. was 39.9°; in 1888, 43.6°; in 1889, 43.8°; in 1890, 39.2°; in 1891, 43.0°; in 1892, 39.6°; and in 1893, 43.5°.

The mean height of the barometer was 29.980 inches, or 0.105 inch above the corrected average value for December—namely, 29.875 inches. The mercury rose to 30.805 inches at 4 p.m. of the 27th, and fell to 29.144 inches at 11 30 p.m. of the 21st. The observed range of atmo-

spheric pressure was, therefore, 1·661 inches—that is, a little less than one inch and seven-tenths.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 43·0°, or 3·8° below the value for November, and 6·2° below that for October, 1894. Using the formula, *Mean Temp.* = *Min.* × (*max.* — *min.* × ·52), the value was 44·0°, or 2·5° above the average mean temperature for December, calculated in the same way, in the twenty-five years, 1865-89, inclusive (41·5°). The arithmetical mean of the maximal and minimal readings was 43·9°, compared with a twenty-five years' average of 41·3°. On the 13th the thermometer in the screen rose to 56·8°—wind, S.W.; on the 31st the temperature fell to 27·9°—wind, N.W. The minimum on the grass was 22·0°, also on the 31st. There were only 3 days of frost in the screen and 15 days of frost on the grass.

The rainfall was 1·511 inches, distributed over as many as 18 days. The average rainfall for December in the twenty-five years, 1865-89, was 2·404 inches, and the average number of rainy days was 16·9. The rainfall, therefore, was considerably below, while the rainy days were above, the average. In 1876 the rainfall in December was very large—7·566 inches on 22 days. In 1872, 4·932 inches fell on as many as 24 days; and in 1868 (which was otherwise a fine and dry year), 4·749 inches fell on as many 27 days. On the other hand, in 1867, only ·771 inch was measured on 13 days; and in 1871 only ·797 inch on 15 days. In 1885, only ·742 inch of rain was measured on but 10 days; but in 1886 the rainfall was 3·348 inches, distributed over as many as 21 days. In 1887 (the “dry year,”) the rainfall was 1·223 inches on 19 days; in 1888, 2·911 inches on 17 days; in 1889, 1·554 inches on 15 days; in 1890, 1·856 inches on 11 days; in 1891, 3·299 inches on 21 days; in 1892, only ·795 inch on 10 days, and in 1893, 2·482 inches on 19 days.

Lunar halos appeared on the 6th, 8th, and 10th; solar halos on the 6th and 8th. High winds were noted on 12 days, and attained the force of a gale on 8 occasions—the 9th, 13th, 14th, 18th, 21st, 22nd, 28th, and 29th. The atmosphere was more or less foggy in Dublin on the 1st, 3rd, 4th, 5th, 6th, 8th, 10th, 11th and 23rd. Snow or sleet fell in Dublin on the 29th and 30th. Hail fell on the 14th, 28th, 29th, and 30th. Lightning occurred on the 30th. Faint aurora was seen on the 22nd.

Saturday, the 1st, was a fine quiet day—at first cloudy, afterwards foggy.

Although not so settled as in the previous week, the weather during the week ended Saturday, the 8th, was favourable and seasonable. At first an anticyclone still stretched westwards across the British Islands from Germany, but the barometer was, all the same, falling steadily. Light to moderate or fresh S.E. winds prevailed in Ireland, where the weather was fine and dry. Sunday was a brilliant day in Dublin—a

heavy dew fell in the evening. Monday broke overcast, but the sky afterwards cleared and fog and frost occurred at night. On Tuesday a shallow, irregular depression (29·70 inches and less) lay over Brittany and the English Channel. It caused dull, misty cold weather, but scarcely any rain fell. On this day the maximal temperature in Dublin was only 38·8°. Wednesday was dull and foggy to fair. On Thursday, much cirrus overspread the sky, causing solar and lunar halos, and the barometer fell as a more decided depression approached from the S.W. At 8 a.m., of Friday the barometer was down to 29·48 inches at Malin Head, and rain was falling in many parts of England and Ireland. By Saturday morning this disturbance had reached the Shetlands and was filling up, while a long trough of low pressure existed over the North Sea. In Ireland the weather was cold, but fine. In England and Scotland, it was taking up after a somewhat heavy rainfall. A solar halo and a lunar halo were again visible on this day. In Dublin the mean height of the barometer was 29·980 inches, pressure ranging from 30·333 inches at 9 a.m. of Sunday (wind S.E.) to 29·608 inches at 9 a.m. of Friday (wind S.W.). The corrected mean temperature was 40·2°; the mean dry bulb readings at 9 a.m. and 9 p.m. were 39·0°. On Friday the screened thermometers rose to 51·4°, having fallen to 28·6° on Tuesday. There was again no registrable rainfall—a sprinkling on Thursday yielding only ·003 inch. The prevailing wind was westerly.

Throughout the week ended Saturday, the 15th, a cyclonic distribution of atmospheric pressure and the south-westerly type of weather held over the British Islands and all but the south-eastern part of Scandinavia. Over Central Europe the barometer until Friday stood high within the limits of an anticyclone, and the weather was calm, cold, frosty and at times foggy—at Munich the 8 a.m. temperatures were—31°, 28°, 21°, 17°, 16°, 22° and 44°. The corresponding values at Valentia Island (Kerry) were—51°, 54°, 51°, 52°, 55°, 51° and 48°. During the earlier part of the week a succession of depressions skirted the western shores of Ireland and Scotland, causing squally S. and S.W. winds, much cloud, showers, and high temperatures. On Thursday morning a deep depression struck the N.W. of Scotland, where the barometer read only 29·19 inches (at Stornoway in the Hebrides) while it stood nearly an inch and a quarter higher in the S. of Germany (30·43 inches at Munich). Fresh to strong S.S.W. gales were felt in Ireland, Scotland, and West of Norway. Next morning the barometer read only 28·98 inches at Haparanda on the Gulf of Bothnia, having been down to 28·76 inches at Bodö in Norway the previous evening. On Friday afternoon heavy showers fell, followed by hail squalls at 10 p.m. Saturday was a bright, cold day; but squalls and rain again set in during the course of the evening. In Dublin the mean height of the barometer was 29·876 inches, pressure ranging between 29·563 inches at 6 p.m. of Sunday (wind S.S.W.), and 30·168

inches at 5 p.m. of Saturday (wind W.). The corrected mean temperature was 48.8° . The mean dry bulb reading at 9 a.m. and 9 p.m. was 48.9° . On Sunday the thermometers fell to 34.9° in the screen; on Thursday they rose to 56.8° . Rain was measured daily, the total amount being .564 inch, of which .203 inch fell on Friday. The prevailing winds were south-westerly. A very heavy fall of rain occurred over the S.E. of England on Friday.

Atmospheric pressure was in a very unstable condition over Europe at large throughout the week ended Saturday, the 22nd, and the weather was therefore changeable and unsettled. On Sunday morning the barometer ranged from 28.90 inches at Bodö, in the N.W. of Norway, to 30.43 inches at Lyons. In the British Isles moderating north-westerly winds prevailed, and the weather was improving. Soon, however, a new depression appeared over the N. of Scotland, and this developed into a cyclonic disturbance, in the centre of which pressure decreased to less than 28.70 inches on Tuesday evening between the Shetlands and the S.W. of Norway. Gales, from S.W. to N.W., with passing showers of rain and hail and, in some districts, lightning, were reported. On Wednesday night this disturbance travelled south-eastwards to Germany and filled up. On Friday another serious reduction of pressure occurred over the Norwegian Sea and North Atlantic, and towards evening a tempest of wind and rain, with very high temperatures, was felt in Ireland and afterwards extended to all parts of Great Britain. At York the barometer fell from 29.99 inches at 8 a.m. of Friday to 28.72 inches at 8 a.m. of Saturday. From 6 p.m. of Friday to 8 a.m. of Saturday the decrease of pressure at that station amounted to 1.11 inches. At Leith the very low reading of 28.119 inches was recorded early on Saturday morning. As this system passed away, the wind drew into N.W., the air became exceedingly dry and crisp—the relative humidity falling to 60 per cent. in Dublin on Saturday, and temperature fell fast. In Dublin, the mean atmospheric pressure of the week was 29.832 inches. The barometer rose to 30.238 inches about 3 p.m. of Thursday (wind W.) and fell to 29.144 inches at 11.30 p.m. of Friday (wind S.S.W.). The corrected mean temperature was 46.1° . The mean dry bulb reading at 9 a.m. and 9 p.m. was 44.2° . On Friday and also on Saturday the thermometers in the screen rose to 53.7° , having fallen to 37.0° on Thursday. The prevalent winds were W. and W.S.W. The rainfall was .414 inch on four days—.187 inch being measured on Monday, and .159 inch on Friday. Faint aurora was seen on Saturday night.

During the week ended Saturday, the 29th, at first, dull, damp, and mild, the weather afterwards became stormy and colder, with bright intervals. Atmospheric pressure remained in most unstable equilibrium all over Europe, and strange contrasts of anticyclonic and cyclonic conditions presented themselves day after day. Speaking in general terms,

the barometer ruled low in the far North, high in the central European zone and over the Atlantic to the southwest of the British Islands. On Thursday, at noon, the unusual reading of 30·93 inches was recorded at Valentia Island (Kerry). At 8 a.m. of the same day 28·78 inches was the pressure at Haparanda, on the Gulf of Bothnia. Sunday proved wet in Ireland owing to the passage eastwards across this country of a V-shaped depression, which filled up subsequently over the North Sea. As this system dispersed, very gloomy, damp, mild weather prevailed. On Christmas Day (Tuesday), the thermometer rose to 55° at Wick, 54° at Nairn and Prawle Point, 53° at Aberdeen, Dublin, Scilly, and Jersey, 52° at many stations, and 50° in London. So warm and dull a Christmas had not occurred for many years. On Wednesday a large depression spread south-eastwards across Scandinavia, causing severe gales in that region, and strong N.W. winds in Scotland. On Thursday the barometer was exceptionally high in the W. of Ireland (above 30·9 inches), but at night pressure gave way quickly as a new storm-system advanced from the westward. A hard W.S.W to N.W. gale ensued, followed by a brisk fall of temperature and showers of cold rain, hail, sleet or snow. In Dublin the mean height of the barometer was 30·243 inches, pressure varying between 30·805 inches, at 4 p.m. of Thursday (wind W.), and 29·505 inches, at 9 a.m. of Saturday (wind N.W. by W.). The reading of the barometer at 4 p.m. of Thursday was the highest recorded in Dublin since January 14, 1891, at 9 p.m. of which day the reading was 30·875 inches. The corrected mean temperature was 44·7°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 43·7°. On Tuesday the screened thermometers rose to 52·6°; on Saturday they fell to 35·3°. The prevailing wind was westerly. Rainfall measured ·489 inch, ·217 inch being recorded on Sunday. Hail fell on Friday and Saturday; sleet, on Saturday.

The last two days of the month were very cold, and snow lay on the ground to the depth of an inch in and around Dublin. Snow and hail fell on the afternoon of Sunday, the 30th, and lightning was seen in the evening.

The rainfall in Dublin during the year ending December 31st amounted to 29·261 inches on 209 days, compared with only 20·493 inches on 174 days in 1893, 25·644 inches on 196 days in 1892, 27·820 inches on 184 days in 1891, 27·562 inches on 200 days in 1890, 27·272 inches on 193 days in 1889, 28·679 inches on 190 days in 1888, 16·601 inches on 160 days in 1887, and a 25 years' average of 27·696 inches on 194·3 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in December, 1894, was 3·060 inches distributed over 16 days. Of this quantity ·580 inch fell on the 9th, and ·490 inch on the 11th. From January 1st, to December 31st, 1894, rain fell at Knockdolian, on 184 days, and to

the total amount of 38·776 inches. The corresponding figures for 1893 were 22·526 inches on 170 days.

The rainfall at Cloneevin, Killiney, Co. Dublin, during December, 1894, was 1·68 inches on 16 days, compared with a nine years' average (1885-93) of 2·108 inches on 15·6 days. The maximum fall in 24 hours was ·40 inch on the 9th. Mr. Robert O'Brien Furlong, M.A., Univ. Dub., reports that the total fall for 1894 at Cloneevin was 32·64 inches on 196 days. This was 7·95 inches in excess of the 9 years average—viz, 24·69 inches, and is the highest recorded for 10 years—1885-94. The next highest annual fall was 32·42 inches in 1886. In 1894 rain (including snow) fell on 196 days, the average being 175 days. In 1886 rain fell on 195 days.

The greatest fall in 24 hours was 1·91 inches on October 23rd. The greatest fall hitherto recorded was 1·84 inches on November 10th, 1891.

The rainfall of October was phenomenal. During the first 16 days the fall was only ·13 inch on 3 days. From the 17th to the 31st rain fell every day except the 22nd.

Thunderstorms occurred on July 25 (12 30 a.m. to 3 a.m. on the 26th). Severe gales prevailed on December 21 (S.W. to N.W.) and October 24 (S.E. to S.W.).

Snow fell on 9 days—Jan. 5, 6, 27, 30 and 31; March 12 and 13; Dec. 29 and 30.

RAINFALL IN 1894,

At 40 Fitzwilliam-square, West, Dublin.

Rain Gauge:—Diameter of funnel, 8 in. Height of top—Above ground 1 ft. 4 in.; above sea level, 50 ft.

Month			Total Depth	Greatest Fall in 24 Hours		Number of Days on which ·005 or more fell
			Inches	Depth	Date	
January,	-	-	2·838	·334	12th	23
February,	-	-	1·903	·360	10th	16
March	-	-	1·287	·268	12th	14
April,	-	-	3·123	·561	13th	20
May,	-	-	3·558	1·330	15th	17
June,	-	-	1·652	·408	17th	19
July,	-	-	3·772	1·560	24th	21
August,	-	-	3·726	1·369	25th	18
September,	-	-	·442	·156	7th	8
October,	-	-	3·967	1·042	23rd	20
November,	-	-	1·482	·399	13th	15
December,	-	-	1·511	·217	23rd	18
Total,	-	-	29·261	—	—	209

The rainfall was 1·565 inches in excess of the average annual measurement of the twenty-five years, 1865–89, inclusive—viz., 27·696 inches.

It will be remembered that the rainfall in 1887 was very exceptionally small—16·601 inches, the only approach to this measurement in Dublin being in 1870, when only 20·859 inches fell, in 1884, when the measurement was 20·467 inches, and in 1893 with its rainfall of 20·493 inches. In seven of the twenty-five years in question the rainfall was less than 26 inches, and in 1885 it was 26·614 inches.

The scanty rainfall in 1887 was in marked contrast to the abundant downpour in 1886, when 32·966 inches—or as nearly as possible double the fall of 1887—fell on 220 days. Only twice since these records commenced has the rainfall in Dublin exceeded that of 1886—namely, in 1872, when 35·566 inches fell on 238 days, and in 1880, when 34·512 inches were measured on, however, only 188 days.

In 1894, there were 209 rainy days, or days upon which not less than ·005 inch of rain (five-thousandths of an inch) was measured. This was considerably in excess of the average number of rainy days, which was 194·8 in the twenty-five years, 1865–89, inclusive. In 1868 and 1887—the warm dry years of recent times—the rainy days were only 160, and in 1870 they were only 145. In 1868, however, the rainfall amounted to 24·935 inches, or more than 8 inches above the measurement in 1887, and even in 1870, 20·859 inches were recorded.

The rainfall in 24 hours from 9 a.m. to 9 a.m. exceeded one inch on two occasions in 1892—viz., May 28th (2·056 inches) and August 16th (1·310 inches). On no occasion in 1893 did one inch of rain fall on a given day in Dublin, the maximal daily measurements were ·871 inch on July 12th, and ·821 inch on November 16th. In 1894, falls of upwards of an inch of rain in 24 hours were recorded on four occasions, viz., May 15th (1·330 inches); July 24th (1·560 inches); August 25th (1·369 inches); and October 23rd (1·042 inches).

Included in the 209 rainy days in 1894 are 16 on which snow or sleet fell, and 32 on which there was hail. In January hail was observed on 7 days, in February on 4 days, in March on 5 days, in April, June, and October on 2 days, in May on 3 days, in July, August, and September on one day, and on 4 days in December. Snow or sleet fell on 7 days in January, on 2 days in February, on 3 days in March, on 1 day in May and in October, and on 2 days in December. Thunder occurred on 11 occasions during the year—three times in May, six times in July and once in August and October. Lightning was also seen on three occasions in July, and once in January, February, September, November and December.

The rainfall was distributed as follows:—6·028 inches fell on 53 days in the first quarter, 8·333 inches on 56 days in the second, 7·940 inches

on 47 days in the third, and 6·960 inches on 53 days in the fourth and last quarter.

The rainfall in the first six months was 14·361 inches on 109 days—that is, not quite one half of the year's record. The rainfall exceeded 3 inches in April (3·123), May (3·558), July (3·772), August (3·726), and October (3·967). In September it was only ·442 inch on 8 days.

Of the 6·960 inches which fell in the fourth quarter of the year, 3·967 inches were measured in October on 20 days, 1·482 inches in November on 15 days, and 1·511 inches in December on 18 days.

Aurora borealis was observed on six occasions—namely, on February 23rd and 25th, March 30th, April 5th, November 23rd, and December 22nd. More or less fog prevailed on 64 occasions—3 in January, 8 in February, 10 in March, 8 in April, 3 in May and June, 5 in September, 9 in October, 6 in November, and 9 in December. High winds were noted on 131 days—21 in January, 17 in February, 12 in March, 5 in April, 11 in May, 8 in June, 7 in July, 13 in August, only 2 in September, 8 in October, 15 in November, and 12 in December. The high winds amounted to gales (force 7 or upwards according to the Beaufort scale) on 39 occasions—9 in January, 8 in February, 4 in March, 2 in April, 1 in May, June, and July, respectively; 2 in August, 1 in October, 2 in November, and 8 in December.

Abstract of Meteorological Observations taken at Dublin (40 Fitzwilliam-square, West) during the Year 1894.

MONTH	Abs. Max.	Date	Abs. Min.	Date	Mean Daily Max.	Mean Daily Min.	Rainfall	Rainy Days	Mean Height of Barometer	Highest Pressure	Date	Lowest Pressure	Date	Prevalent Winds
January	54.7	11th	18.6	7th	46.0	36.0	Ina.	23	Ina.	Ina.	3rd	Ina.	31st	S.W., W.S.W., W.
February	58.6	7th	31.6	1st	50.4	39.4	1.908	16	29.906	30.448	20th	28.867	11th	W., S.W.
March	63.6	29th	31.8	17th	52.7	38.0	1.287	14	29.896	30.434	23rd	29.096	18th	W., S.W., E.
April	62.7	8th	38.0	1st	55.6	44.3	3.123	20	29.801	30.427	30th	29.261	24th	S.
May	64.5	25th	33.0	21st	55.4	43.0	3.558	17	29.970	30.491	1st	29.543	9th & 10th	W., N.N.W., N.E.
June	72.3	30th	43.1	6th	63.3	50.2	1.652	19	29.992	30.868	29th	29.493	2nd	W., E.
July	75.7	1st	48.3	23rd	66.4	54.1	3.772	21	29.853	30.211	1st	29.309	11th	W., N.W., S.W., E.S.E.
August	67.9	8th	47.1	20th & 22nd	63.1	52.7	3.726	18	29.916	30.304	29th	29.432	16th	N.W., W.
September	63.9	10th	39.8	28th	59.4	48.2	.442	8	30.213	30.509	30th	29.768	22nd & 23rd	N., E.N.E., E.
October	62.8	31st	36.0	22nd	55.0	44.4	3.967	20	29.831	30.454	1st	28.591	24th	E., S.E., W.
November	61.6	1st	34.3	30th	52.9	42.7	1.482	15	29.850	30.591	30th	28.904	14th	W., S.W., S.S.W.
December	56.8	13th	27.9	31st	48.7	39.0	1.511	18	29.980	30.805	27th	29.144	21st	W., S.W.
Extremes, Totals, and Means	75.7	July 1st	18.6	Jan. 7th	55.8	44.3	Ina.	Days 209	Ina.	Ina.	Dec. 27th	Ina.	Oct. 24th	W., S.W.
					50.1°									

PERISCOPE.

TRANSMISSION OF TYPHOID FEVER FROM MOTHER TO FÆTUS.

An interesting case demonstrating conclusively that typhoid bacilli may pass from the maternal to the foetal circulation is reported by Janiszewski (*Munch. Med. Woch.*, Sept. 18th, 1893). A woman, aged thirty-eight, gave birth, in the third week of a typical attack of enteric fever, to an eight months' child. The infant died in five days' time. At the necropsy there were hæmorrhages in the kidneys, and patches of consolidation in the lungs. The spleen was enlarged, but the intestine showed no change. Portions of the lungs, spleen, kidney, mesenteric glands, and intestine in the neighbourhood of the ileo-cæcal valve showed the presence of bacilli. These bacilli were proved both morphologically and by the usual cultivation experiments to be typhoid bacilli.—*Canadian Practitioner*.

SUICIDES IN FRANCE.

The Hospital quotes from the *Journal Officiel* the following figures, showing the increase of suicide in France. In 1890 the number was 8,410 :—

Years					Average Annual Suicides		Per 100,000 Inhabitants
1861-65	-	-	-	-	4,661	-	12
1866-70	-	-	-	-	4,990	-	13
1871-75	-	-	-	-	5,276	-	15
1876-80	-	-	-	-	6,259	-	17
1881-85	-	-	-	-	7,339	-	19
1886-90	-	-	-	-	8,226	-	21

COMMUNICABILITY OF LEPROSY.

In the *Medical Record* of December 2nd, 1893, Dr. Beaven Rake ("of London, England"), a member of the late Indian Leprosy Commission, publishes an elaborate paper on this subject, which should be studied by all who are interested in the disease of leprosy. His conclusions are summarised as follows:—1. Leprosy is probably due to a bacillus, and theoretically we must admit the possibility of its inoculation. 2. The experimental inoculation of leprosy in man or animals has never succeeded beyond the possibility of doubt. 3. It has not been proved that vaccination has conveyed leprosy. 4. While practical experience points to a possible communication of the disease from one person to another, the weight of evidence shows that this must be extremely rare, and under very exceptional conditions. 5. Leprosy has steadily decreased in many countries without any attempt at compulsory segregation, while in other places it has increased in spite of isolation of lepers. 6. The immigration of lepers into leprosy-free countries has not in recent times been followed

by any appreciable spread of the disease. 7. For practical purposes leprosy may be regarded as less dangerous to the community than tuberculosis, and as requiring no greater precautions than those taken against the spread of that disease.

OPERATIONS IN BALTIMORE.

THE curious in surgical operations will be interested in the *Johns Hopkins Hospital Bulletin* for October, 1893. Dr. H. A. Kelly, Gynæcologist-in-Chief, in the course of a "hysteromyomectomy," mistook a ureter for an engorged vein, and divided it. He tied the lower end of the ureter close to its cut extremity, and made a longitudinal incision in its anterior wall, into which he stitched the upper end. The operations were perfectly successful. Dr. J. T. M. Finney reports three cases of removal of the Gasserian ganglion for severe neuralgia of the fifth nerve. Two of these were successful; one proved fatal. "From the autopsy report it is readily seen there was ample cause for death found in the pre-existing heart lesions, so the death can hardly be fairly laid to the operation *per se*, although undoubtedly precipitated by it."

HEALTH OF THE U. S. ARMY.

FROM an abstract of the Surgeon-General's Report on the health of the army of the United States, for the year ending 30th June, 1893 (prepared by the *Medical Record*), we extract some of the more important statistics. Strange to say, neither the total nor average strength is given. The health of the army was excellent. Admission rate per 1,000, 1,270.42; non-effective rate, 39.60; discharged for disability, 18.35; death-rate, 6.44; mortality from disease being 4.36. "The absolute number of deaths was 173, of which 56 were caused by violence, 20 by consumption, 17 by pneumonia, 15 by diseases of the nervous system, 13 by typhoid fever, 13 by diseases of the heart, 8 by diseases of the kidney, 6 by influenza, and 3 by alcoholic poisoning." In one recruiting depot the admissions for venereal affections were 292.72, and the non-efficiency 18.54 per 1,000 of strength. These were the highest rates; the lowest were 195.48 and 12.16. As to physical condition and nationality of recruits:—"Number of applicants accepted, 9,585, or 38.3 per cent. of 25,012, the total number; rejected on primary examination 58.3, and declined 3.4 per cent. Diseases of the eye were the most prolific causes of rejection, having been found to a disabling extent in 8.5 per cent. of the applicants. The average age of the men accepted for service was 25.39 years, height 67.43 inches, weight 145.35 pounds, measurement of chest at expiration 34.16, at inspiration 37.02, expansibility of chest 2.86 inches. Of every hundred of these recruits 68.3 were native Americans; white 57.6, coloured 8.6, Indian 2.1. Of the foreign born men 9.4 came from Ireland, 9.2 from Germany, 3.1 from England, 2.2

from Canada, 1.6 from Sweden, and lesser percentages from other countries. About two hundred and fifty different callings or occupations were recorded on the enlistment papers by the recruits accepted during the year."

TONGUE-TRACTION IN ASPHYXIA.

At the meeting of the *Académie de Médecine*, on the 19th December last, M. Laborde reported five fresh cases in which he had employed his method of rhythmic tractions of the tongue for recalling asphyxiated persons to life. He maintained that the procedure almost invariably succeeds where other methods fail, the bulbar centres being powerfully stimulated by excitation of the superior laryngeal nerve. M. Lancereaux expressed doubt of its efficacy in cases of sudden arrest of the heart's action. He attributes arrest of respiration in many cases to excitation of the sensitive terminations of the vagi, by allaying which—as by morphin—respiration may be restored. In the case of a child apparently dead after violent convulsions, he restored animation by an injection of morphin. In a case of laryngeal cancer the patient became asphyxiated, tracheotomy failed to give relief, and morphin was successfully employed. M. Picard had tried M. Laborde's method in three cases and failed in all.

MR. HART IN AMERICA.

We gather from the November number of the *New York Post Graduate* that Mr. Ernest Hart's well-meant efforts to remodel medical matters in the United States according to his own (English) opinions on the fitness of things, have not been received with becoming meekness. Dr. Hammond has been out on the warpath, and has used his tomahawk freely and with effect. The *Post Graduate* suggests that "missionaries ought to thoroughly understand the subjects they are discussing."

THE DIETETIC TREATMENT OF DISEASE.

MR. W. LANGFORD SYMES, L.R.C.P.L., L.R.C.S.I., of Kiltegan, County Wicklow, has designed a series of very neat diet-cards, for use in the consulting room. They are put up in packets which can be carried in the coat pocket. These diet cards are printed and published by H. Silverlock, 92 Blackfriars' Road, London, S.E. Each packet contains four sets of diets, distinguished by being printed on toned paper of different tints. No. 1 diet is suitable for acute inflammatory diseases and fevers; No. 2 for use in convalescence, marasmus, malnutrition, and the wasting of phthisis; No. 3 for gout, lithiasis, affections of the kidneys, or for mild cases of Bright's disease; No. 4 for diabetes. From all the diet-lists stimulants are especially omitted. In the compilation of these cards considerable latitude has been allowed, and it is left to the attendant physician to cancel unsuitable articles in a given case. The author wisely remarks that many chronic albuminurics require, and are

in no way injured by, a relaxation of the severe pure milk dietary, while the incipient diabetic may take with impunity many articles included in the "Index Expurgatorius" on Card IV. We have only to add that in compiling these very useful diet-cards, Mr. Symes has conformed to the most rigorous rules of medical etiquette. His name does not appear on the cards themselves, only on the outside of the packet containing them, and then merely as "W. L. Symes." The price of each packet of 25 cards is half-a-crown.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Therapeutic Novelties.

MESSRS. BURROUGHS, WELLCOME & Co., of Snow Hill Buildings, London, E.C., have brought under our notice a series of new preparations, which seem fully to sustain the high reputation of that firm. We shall briefly describe the novelties in question.

Physicians will find two convenient and useful additions to their *armamentarium* for the treatment of fever, and especially of typhoid fever, in the "tabloids" of compressed bismuth salicylate and of compressed eucalyptol phosphate respectively. Each tabloid of bismuth salicylate contains 5 grains of the salt, and the dose is one to four tabloids taken with water or other liquid as directed by the physician. The eucalyptol phosphate tabloids contain one grain of phosphate of eucalyptol in each, which when dissolved in the mouth or stomach will yield nearly one minim of pure eucalyptol and about two-fifths of a grain of phosphoric acid. These tabloids act as efficient thirst-assuagers as well as mouth disinfectants.

The Kepler cod-liver oil with malt extract has of course been long and favourably known as a pleasant and easily-digested food for infants and invalids. The firm have now added to each fluid ounce 4 minims of eucalyptol. This improves the taste and increases the therapeutic value of the preparation.

There are in the collection submitted to us three sets of tabloids of compressed Blaud's "ferruginous" pill, prepared according to the French Codex—first, the plain preparation, each tabloid containing 4 grains and being sugar-coated; next, tabloids of 4 grains of Blaud's pill with one-twentieth of a grain of aloin; and lastly, tabloids containing 4 grains of Blaud's pill with one sixty-fourth of a grain of arsenious acid.

Samples of tabloids of compressed "didymn" or "orchitic substance," and of compressed phosphates of iron, quinine, and strychnine have also been submitted to us. Each didymn tabloid is equivalent to five grains of fresh material, while each phosphatic tabloid is equal to one fluid drachm of Easton's syrup.



SIR WILLIAM STOKES ON CANCER OF THE JAWS.



EXCISION OF BOTH UPPER JAWS.

(No. 47.)

1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971).

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

MARCH 1, 1895.

PART I.

ORIGINAL COMMUNICATIONS.

ART. VIII.—*On the Operative Treatment of Cancer of the Jaws, Tongue, and Lips.** By **SIR WILLIAM STOKES**, Ch.M., Univ. Dubl., F.R.C.S.I.; Surgeon-in-Ordinary to Her Majesty the Queen in Ireland; Professor of Surgery, Royal College of Surgeons; late Hon. President of the International Medical Congresses at Berlin and Rome; Member of the German Surgical Society, Berlin; Past President of the Pathological Society and Royal College of Surgeons in Ireland; Examiner in Surgery, University of Oxford; Fellow of the Royal Medico-Chirurgical Society, London, &c., &c.

ALTHOUGH our knowledge of the ætiology and pathology of cancer—and in using that term I wish it to be understood that I employ it in a purely clinical sense and embracing malignant growths generally—is still involved in much uncertainty and doubt, modern pathological research has taught us that the unhappy consequences resulting from it are mainly the outcome of secondary or metastatic products. It has also shown that the malign influences of cancer travel along definite “infection paths,” and that to the old and generally accepted view as to its heredity the Scottish verdict of “not proven” appears to apply. In truth, heredity has come to be regarded, as Mr. Herbert Snow has observed, as “an element much more likely to mislead in diagnosis

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than the reverse. In seventeen years' special experience I have learnt that a person who comes to me with a strong family history of cancer is much more likely to be suffering from some innocent ailment than from this dreaded scourge." The results of my inquiries in the cases I have operated on and tabulated here, as well as in others, are distinctly opposed to the old-established views as to the liability of the disease being transmitted from one generation to another. It is hard to understand why, if the disease is a hereditary one, some special forms of it should be so much more frequently observed in one sex than another. Mr. Barker and Mr. Morris practically reject the theory of heredity, the former observing that it would appear as though the occurrence of cancer in the families of those who have the disease in the tongue was little more than a coincidence.

The difficulties of coming to a definite conclusion at present on this point are very considerable, as the majority of the sufferers know, or profess to know, nothing of their own family histories, and also it must be remembered that there is a not altogether unnatural disposition on the part of a large number of patients to wilfully conceal the fact that their ancestors were afflicted with any form of cancer. Some years ago, when the late Sir William Gull, Dr. Mahomet, and others advocated, with characteristic enthusiasm, the method of research designated the "Collective Investigation of Disease," I was in great hopes that this important matter would be cleared up, but unfortunately my expectations were not realised, and the subject still remains shrouded in obscurity. Mr. Jessett, in his work on "Cancer of the Alimentary Tract," strongly favours the view as to the heredity of the disease, and to its being a constitutional not a local one; but even his exceptionally large experience in the Cancer Hospital, Brompton, seems hardly sufficient to justify any dogmatism on the subject.

I cannot but be of the opinion, too, that in the cases that apparently illustrate heredity, tubercular disease and syphilis probably act as important ætiological factors. There can be no doubt that cases of lingual ulceration depending on tuberculosis or syphilis have a tendency after a time to develop into carcinoma, and the accurate differentiation of these cases—especially in the transitional stages—presents, as has been so well pointed out by von Esmarch, problems for solution, than which none are more complex or more difficult in the whole range of surgery. The frequent

association of syphilis and cancer, and especially that of the tongue, is so often observed—and a typical example illustrative of this was recently under observation in the Meath Hospital—that it is impossible to avoid coming to the conclusion that the one largely exercises a predisposing influence in the production of the other. If this ultimately be established beyond all question—and increasing experience and research point in that direction—how greatly it adds to the heavy responsibilities incurred by persons who obstinately, wilfully, and wickedly persist in thwarting the efforts of those who endeavour to mitigate or stamp out what is essentially a preventable malady.

Much has been shown, too, by modern pathological research in favour of cancer being primarily a local affection and probably parasitic in its origin, for, although no carcinoma micro-organism is as yet *en evidence*, “the circumstantial and comparative evidence appears to be so complete,” as Messrs. Ballance and Shattock have observed, that “we do not doubt that cancer is, in its essential pathology, a parasitic disease.” The unquestioned connection between the results of certain sources of irritation and cancer, as seen so often in the lips, tongue, breast, and scrotum, point to the disease being primarily, at all events, a local one.

Though so much still remains to be ascertained, what has been accomplished is of the greatest possible value in a surgical point of view, proving, as it does, not only that the primary mischief, but also that the paths along which that mischief has spread, must be thoroughly and completely removed if an efficient check is to be put on its onward course. I allude, of course, to the lymphatics and glands in the proximity of the primary lesion. As there is no group of cancer cases that illustrate better the truth of this than those of the mouth cavity, among which I include the cases in which the lips, tongue, floor of the mouth, tonsils, and jaws are involved, I have deemed it not improbable that a short statement in reference to the principal cases of this kind that I have operated on might be of interest to the Surgical Section of the Academy.

I regret to say that the accompanying statistical record is by no means a complete one, or represents accurately the number of cases of cancer involving the mouth cavity that I have operated on in either the Richmond or the Meath Hospitals. This is due to two circumstances, the first and principal one being my own indolence in not having kept as accurate a record of my operative work as I should have done, and the other, that I had not the

advantage in either hospital of a surgical registrar—an officer whose sole duty should be to make a record of every case admitted and treated in hospital.

However, on the tabular statement are indicated the cases of greatest gravity I have operated on, and which presented features of greatest clinical interest. The cases are 62 in number, consisting of 24 cases of excision of the tongue, 13 cases of excision of one upper jaw, 1 case of excision of both upper jaws, 8 cases of excision of the lower jaw, 3 cases of tumours of lower jaw, and 13 cases of extensive epithelioma involving the lower lip, chin, and floor of the mouth, necessitating complicated and difficult cheiloplastic operations. In the tabulation of these cases, which has been made in a very short time and with much unavoidable haste, I am greatly indebted for the kind assistance rendered to me by Dr. Harvey, of the Richmond, and Dr. William Taylor, of the Meath Hospitals.

Among other things these cases of cancer of the tongue illustrate two points of clinical interest—viz., the comparative rarity of the disease in the female, there being only 4 such in the 19 cases, and another was that the disease in almost all the cases was on the right side. 'This may, however, have been only a coincidence.

I do not suppose there is any topic in the whole range of surgery on which there is greater difference of opinion among surgeons than the one in reference to the operative treatment of cancer of the tongue. I allude here particularly to the questions in reference to how much or how little should be taken, and in what way it should be taken; whether the lingual artery should be tied, or laryngotomy, tracheotomy, or tamponade be employed as preliminary steps to the operation; what the indications or contra-indications are to the operation; the instruments to use, and the dressings to employ. Mr. Whitehead, for example, advocates the early and complete removal in all cases by a cutting operation done with a scissors; whereas Mr. Jonathan Hutchinson does not think it necessary to remove the entire organ, and prefers the *écraseur*. "Experience has proved," he observes, "that it is by no means necessary to remove the entire organ in cases where the disease is limited to one part. This is contrary to what might have been expected, as the tongue is vascular, succulent, and well supplied with lymphatics." With this statement I feel disposed to concur, as I have not witnessed recurrence of the disease in the portion of the tongue left when the disease was limited and had not





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(No. 31.)



EXCISIONS OF THE UPPER JAW.

(No. 28.)

• *Staphylococcus aureus*

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crossed the mesial line, but in the majority of cases observed it. Tracheotomy and tamponade, advocated so strongly as desirable preliminary operations by M'Gill, Barker, and others, were discarded by Volkmann, and the question of the merits or otherwise of previous ligation of the lingual artery is a perennial source of surgical contention.

I have had, through the courtesy of my friend, Mr. Croly, an opportunity of seeing two cases of cancer of the tongue operated on by him, in which he had performed a preliminary ligation of the lingual artery, and I am bound to say I was much impressed with the bloodlessness of the two excisions; but, notwithstanding this, I still am of opinion that, when the precautions I have mentioned are taken, in the great majority of cases this preliminary procedure is hardly necessary, and it certainly complicates the operation. My present feeling, therefore, would be only to adopt preliminary ligation of the lingual artery in exceptional cases—namely, where there is much thickening and infiltration, and where the entire organ has to be removed; and to the question of the desirability of preliminary bronchotomy and tamponade the same remarks would apply. But in the lymphatic glands, or “infection paths,” as they have been termed, “infiltration of the adjacent tissues,” Mr. Hutchinson observes, “is not common, but infection of distant glands may be produced by ulcers of the most insignificant size.”

Under these circumstances, as in the great majority of these cases, relief from suffering and prolongation of life is, in the present state of our knowledge, the most that can be expected from operative interference; leaving a substantial portion of the unaffected part of the tongue largely promotes the comfort of the patient both as regards deglutition and articulation.

In reference to the way the excision should be performed, I may mention that in my earlier operations I relied almost exclusively on the *écraseur*, being impressed by the favourable statistics and bloodlessness of the procedure, and not sharing the views of those who think that the instrument should be regarded very much in the same light as one of those mediæval instruments of torture, such as are seen at Regensburg or Nuremburg. I have not altogether seen my way to discard my first love, but in order to get rid of what is to my mind the chief defect in the *écraseur* operation—namely, the great length of time that is required for the division of the tissues—I have combined the cutting with the

écraseur operation, and in that way have effected much economy of time. By cocain and other anæsthetics the operation can now be rendered as painless as it is bloodless. Having freely divided the sublingual tissues with scissors, in the way recommended by Sir James Paget, I usually insert the traction ligatures, one through the apex, and the other through the base of the tongue at a point well behind where the section of the tissues is to be made. To do this efficiently a buccal section, such as that recommended by Jaeger, Maisonneuve, and my former teacher and colleague, Maurice Collis, may be required, but this, I think, is only necessary in cases where the disease is extensive and the operation likely to be one of exceptional severity. Following Cloquet's suggestion, advocated by Marrant Baker, of splitting the tongue down the middle line with scissors to a point well beyond where the subsequent section of one or both lateral halves is to be made, I place round the base of one or other or both of these an écraseur chain. The tissues are then cautiously divided, but before complete division I have latterly transixed the undivided portion containing the lingual artery with a blunt needle, armed with a strong silk, and after firmly ligaturing it, complete the division of the tissues with either écraseur, scissors, or knife. Careful removal of all enlarged neighbouring glands is, of course, essential. The initial and final steps are, as a rule, carried out by cutting with scissors, and the intermediate one by the écraseur, the advantages of which are thus retained while the disadvantages are got rid of.

In two cases of lingual cancer I have operated mainly by the cauterization—in one by the galvanic cauterization, as recommended originally by Middeldorpf, and in the other by Paquelin's thermo-cautère. In both cases there was severe secondary hæmorrhage, and consequently I entertain not unnaturally a distinct prejudice against that method of removing a tongue.

As regards the after-treatment of the cases operated on for cancer of the tongue or jaws, I have little to say, except to urge the necessity of frequent irrigation of the mouth. One of the most potent agencies for mischief that formerly attended these operations—namely, pulmonary complications consequent on the absorption or inhalation of septic agencies emanating from the wound—may, I think, be said to be practically disarmed by the free and constant use of antiseptic irrigation. The one I usually employ is a strong boric solution, and in not one of these cases I have operated on has there been during convalescence evidence of



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EXCISION OF THE UPPER JAW.
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septic mischief. The case of the patient, both of whose upper jaws I almost entirely removed, died, no doubt, of bronchitis and pneumonia; but then it is by no means clear that these affections were connected with septic infection. The illness which proved fatal occurred a considerable time after the operation. The wounds had quite healed, and as he was in the habit of going out every day, I think it is just as likely that cold may have induced his illness as any septic agency.

In reference to operative details in excision of the upper jaw, I have little or nothing to add to what I have already published in various journals. The incision, as originally recommended by Sir William Fergusson, limited to the middle line of the upper lip and the groove between the ala nasi and the cheek, and carried upwards towards the inner angle of the eye, is, I think, insufficient to enable the operator to effect a complete excision of the bone; but when the neoplasm is limited in extent and confined to the anterior part of the alveolus and hard palate it may suffice. The usual modification, as all operators here are aware, is to carry the incision outwards along the lower border of the orbit to the middle line of the malar bone. I usually have made this latter incision, not horizontal but curved, with its convexity downwards, corresponding to the lower margin of the malar bone. This modification I have adopted solely for cosmetic purposes. The separation of the maxilla from its fellow I generally effect by powerful bone forceps, and the section of the malar bone on a line with the spheno-maxillary fissure with a fine resection saw. All the other necessary divisions of bone are effected by forceps. In the case where the double maxillary resection was performed, I did not, in dealing with the second maxilla, follow the recognised course of making fresh skin incisions, but dissecting off and reflecting backwards and outwards the nose and tissues covering the right maxilla, and dividing its attachment to the malar bone with forceps, made an infra-orbital section of the bone, and then removed it, leaving, however, the orbital plate.

The steps taken after the operation consisted in careful drying and cleansing of the wound, and subsequently treating it with iodoform and boracic acid. To prevent the access of blood into the air passages, I have never performed a preliminary tracheotomy in any of these cases, nor have I adopted the very inconvenient method of keeping the patient's head hanging well back over the edge of the table during the operation, as

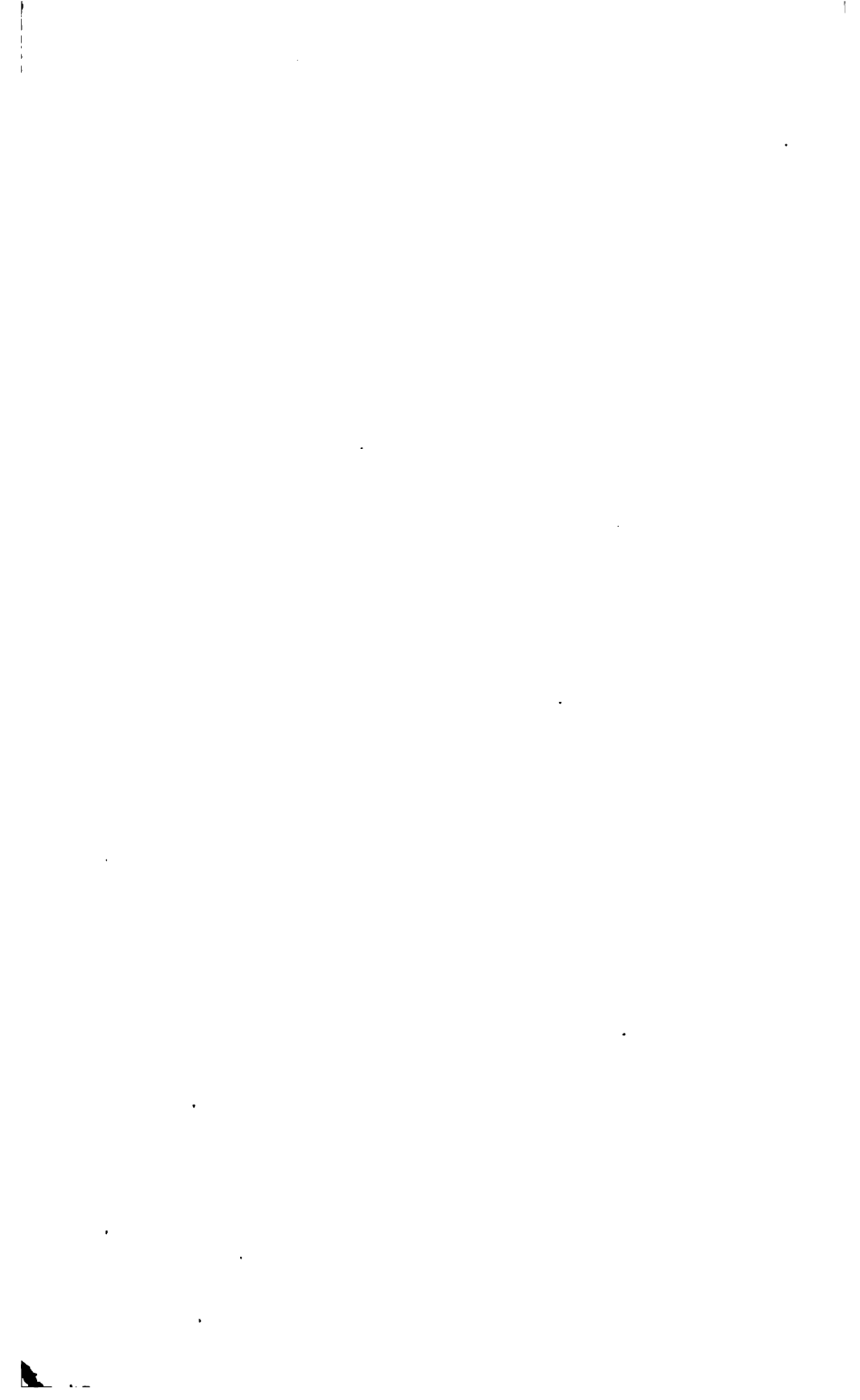
recommended by Professor Rose. To surgeons who are able to exercise their art confidently, quietly, with deliberation and care, and who do not think that rapidity and brilliancy are convertible terms, such devices appear to me to be uncalled for, and to add materially to the complications of an operation which, without them, are sufficiently great.

As regards excision of the lower jaw, partial or complete, I may repeat the opinion I have already on more than one occasion expressed as to the absence of any necessity for dividing the red border of the lip, the desirability of a free division of the soft parts previously to making any section of the bone, that this latter can best be effected by the use of the chain saw; also that arrest of hæmorrhage from division of the dental artery can be effected, not so well by the actual cautery as recommended by Mr. C. Heath, as by plugging the duct or foramen with a fine pointed piece of wood; that a traction ligature through the apex of the tongue is desirable in the event of there being any tendency to its falling back. In the cases, too, where there is a tendency to the remaining portions of the bone being drawn inwards, I have found that the application of that part of L'Estrange's apparatus for fractures of the lower jaw, for correcting the lateral overlapping displacement occasionally met with in that injury, is of much service.

For cosmetic purposes it is desirable, especially when the patient is a female, to make the external incision more below and behind than in front of the ramus of the jaw, and that the minimum of cicatricial deformity is obtained by the use of figure of eight sutures, the finest entomologist pins and soft floss silk being employed for the purpose.

In regard to the cases of labial cancer, a few of which are appended to this tabular statement of cases, I have again to express my regret that I did not keep a more accurate record of the number of them I have operated on. Most of the cheiloplastic operations that have been proposed I have tested, and with a fair measure of success. But labial cancer is one of the conditions, every example of which must be dealt with on its own merits; however, I desire to state that in my opinion, for cases of extensive cancerous diseases of the lips, Syme's operation, like everything else that emanated from that illustrious surgeon, possesses merits not found in any other of the many procedures that from time to time have been advocated.





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EXCISION OF THE LOWER JAW.

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Another source of regret is the limited number of cases I have been able to keep under observation for any length of time after operative interference, so that the facts connected with the ultimate results in the majority of the cases could not be ascertained, but still the outcome in a large proportion of cases that I have been able to follow is encouraging, and gives grounds for hoping and confidently expecting from the resources of operative surgery better results in the future, not merely in affording relief from pain, which is at times so extreme, and "the misery of one of the most distressing and disabling conditions," as Sir James Paget has so well described it, that man can be afflicted with, but also prolongation of life to some, and complete recovery to others.

In the future it is probable—indeed certain—that some more reliable weapons will be found for attacking cancer than the surgeon's scalpel or cautery. To bacteriological research we look with expectancy and confidence to furnish such weapons, and the search for, discovery and destruction of the still perfectly unknown carcinoma micro-organism will be, as von Billroth said, one "of the greatest tasks reserved for future generations!"

Operations for Cancer of the Tongue.

No.	Sex	Age	Date	Nature of Case	Operation	Result	Remarks
1	Female	30	4/2/80	Cancer of left side of tongue	Removal by écraseur	Good	Buccal splitting required
2	Male	25	21/4/80	Epithelioma of tongue	Ligature of anterior and right side of tongue	Unknown	
3	Male	60	1/12/80	Cancer of tongue	Removal by écraseur	Good	Return of disease in sub-maxillary glands seven months later
4	Male	56	27/3/82	Cancer of tongue and floor of mouth	Removed by écraseur, also of glands at angle of jaw on each side	do.	Both linguals ligatured, and removal of piece of lower jaw
5	Male	75	11/3/85	Cancer of floor of mouth and tongue	Excision mainly by thermo-cantery	Relieved	Disease returned in eight months
6	Female	55	29/4/85	Cancer of tongue	Excision by two écraseurs	Good	Ligature of lingual
7	Male	52	8/5/85	Cancer of tongue	Excision	do.	do.
8	Male	45	27/5/85	Cancer of tongue, soft palate, and lower maxilla	Excision of half the tongue, lower maxilla, and part of soft palate	Relieved	Ultimate history unknown
9	Male	75	30/11/85	Cancer of tongue and floor of mouth	Excision	Death	See Case 5.
10	Male	50	14/11/88	Epithelioma of tongue, floor of mouth, and submaxillary glands	Excision of tongue with portion of lower jaw	do.	
11	Male	44	27/3/82	Epithelioma of tongue	Excision of tongue by Whiteheads' operation	Good	

No.	Sex	Age	Date	Epithelioma of tongue	Excision of one lateral half	do.	Result
13	Male	45	11/7/89	Large, excavated, ragged ulcer, occupying right side of tongue	Excision of right lateral half with portion of lower jaw	do.	Favourable
14	Male	74	6/11/88	Epithelioma of tongue, right side	Tongue split and right lateral half removed	Good	
15	Male	34	15/7/89	Epithelioma of tongue extending to root of the tongue. Glands greatly enlarged in neck. Great pain	Removal by ecraseur	do.	
16	Male	45	2/1/71	Epithelioma situated on right side of anterior third of the tongue, enlargement of submaxillary glands, infiltration, pain, and induration	Excision, with removal of sub-maxillary glands	do.	
17	Male	48	Feb., '71	Ulceration (epithelial) above and to left side of tongue extending far back, also submaxillary glandular enlargements	Excision	do.	Patient seen one year and ten months after the operation. No evidence of recurrence
18	Male	50	Feb., '75	Epithelial ulceration, left side of tongue with glandular enlargements	Excision	do.	Patient seen eighteen months after operation. No return
19	Male	56	Jan., '76	Epithelioma on right side and extending to upper surface and across mesial line. There was but one gland perceptibly enlarged. Infiltration very great.	Excision, partly by scissors and partly by ecraseur	do.	Patient seen three months after operation. No return

Operations for Cancer of the Tongue—continued.

No.	Sex	Age	Date	Nature of Case	Operation	Result	Remarks
20	Female	41	16/3/80	Epithelial ulceration, extensive, spreading from left side of tongue to upper surface. Several enlarged glands	Excision	Good	Disease returned four months after operation. Chian turpentine tried with apparent temporary improvement
21	Male	60	Nov., '80	Epithelial ulceration on upper and anterior portion of tongue, thickening, induration, pain, and profuse and constant fetid discharge from the mouth	Excision by écraseur	do.	Patient left two months after operation, "in every way pleased with the result." Subsequent history not obtained
22	Male	50	20/7/91	Ulceration of four months' standing, situated on right side. Oval in shape	Division of sub-lingual attachments. Division of tongue along mesial line, and removal of right lateral half by wire écraseur, and scissors	do.	
23	Female	57	5/11/81	Extensive epithelioma of tongue and palate	Removal by scissors and cautery	—	Patient died six months after
24	Male	55	10/7/94	Epithelioma of right lateral half of tongue and floor of mouth.	Removal by scissors and écraseur	Relieved	Rapid return of disease in right tonsil

Operations for Cancer of the Jaws.

No.	Sex	Age	Date	Nature of Case	Operation	Results	Remarks
25	Female	29	21/2/80	Tumour of inferior maxilla, sarcoma	Partial excision of lower jaw	Good	
26	Male	81	30/7/80	Epithelioma of lip and secondary cancer of jaw	Excision of lower jaw. Bone divided at each angle	do.	Ultimate result not ascertained
27	Male	45	21/10/80	Epithelioma. Disease involving lower lip and tissues covering chin	Partial excision of lower jaw	do.	
28	Male	47	25/10/82	Sarcoma, base of skull	Excision of upper jaw	do.	
29	Male	17	6/3/82	Sarcoma of upper jaw, following extraction of first upper right molar	Excision of tumour	do.	
30	Male	18	26/11/83	Fibro-sarcoma of superior maxilla	Excision of tumour with superior maxilla	do.	
31	Male	50	28/2/68	Epithelioma of upper jaw, occupying chiefly hard palate	Excision of upper jaw	do.	
32	J. G.	18	22/9/79	Recurrent epulis of upper jaw, operated on 12 months previously	Excision of tumour	do.	Copious secondary hæmorrhage
33	M. J.	45	23/7/78	Recurrent epulis of lower jaw	Excision	do.	
34	—	40	18/9/78	Epulis	do.	do.	
35	Female	57	13/12/79	Submaxillary sarcoma	do.	—	Patient died three months after his return to the country
36	Male	20	25/2/80	Cystic tumour of upper jaw	do.	Good	
37	Female	24	1/3/80	Sarcoma	Excision of lower jaw (partial)	do.	
38	Male	45	14/6/80	Epithelioma	do.	do.	

Operations for Cancer of the Jaws—continued.

No.	Sex	Age	Date	Nature of Case	Operation	Result	Remarks
39	Male	65	28/11/81	Epithelioma of lower lip; disease extending to tissues covering anterior part of lower jaw	Excision of lower lip and (partial) of lower jaw	Good	
40	Male	30	30/10/82	Sarcoma of upper jaw	Excision of upper jaw	—	
41	Female	13	3/12/83	Tumour (epithelioma) of upper jaw, probably originating in antrum. Rapid growth	do.	Good	
42	Male	80	—	Epithelial ulceration of anterior part of alveolus on right side of upper jaw extending to mucco-periosteum of hard palate	Partial excision of upper jaw	do.	
43	Male	59	1/5/87	Epithelioma of left superior maxilla	Excision of upper jaw	do.	
44	Female	—	30/1/93	Malignant tumour of antrum (epithelioma?)	do.	do.	Left hospital April 21st well. Not heard of since
45	Female	—	20/3/93	Malignant tumour of five months growth; about size of a large egg; extending into mouth as well as externally	do.	do.	Left hospital April 28th
46	Female	52	12/9/93	Malignant disease of superior maxilla	do.	do.	Patient left hospital 14th November
47	Male	54	14/9/91	Sarcomatous tumour, involving both superior maxilla	Excision of the left upper jaw, and right upper jaw, but leaving orbital plate of latter	—	Patient recovered from the operation, but a month afterwards contracted pneumonia, of which he died
48	Male	45	22/1/94	Sarcoma	Excision of lower jaw	—	Recurrence of disease in six months
49	Male	49	6/1/95	Epithelioma of tongue, floor of mouth, and lower	Excision of lower jaw (partial), floor of mouth and base of tongue	—	Too soon (March 1) to judge of result

Operations for Cancer of the Lip.

No.	Sex	Age	Date	Nature of Case	Operation	Result	Remarks
50	Male	56	15/12/79	Epithelioma of lower lip, floor of mouth and sub-maxillary glands	Excision and Symes' cheloplastic operation	Good	
51	Male	46	20/1/82	Epithelioma . . .	Symes' cheloplastic operation	do.	
52	Male	40	4/2/80	Epithelioma of lower lip	Excision . . .	do.	
53	Male	72	1/10/80	Extensive epithelioma of lower lip	Zeis' operation . . .	do.	
54	Male	56	4/2/81	Epithelioma of lip, and secondary enlargement of cervical glands	Excision . . .	—	
55	Female	50	28/7/81	Epithelial ulceration of lip and involving cheek. Rapid growth	do. . . .	Relieved	
56	Male	40	20/1/82	Recurrent epithelioma of lower lip	do.	Good	Operation performed eight months previously in the country
57	Male	74	1/3/82	do. do.	do. . . .	do.	Previous operation six years ago

Operations for Cancer of the Lip—continued.

No.	Sex	Age	Date	Nature of Case	Operation	Result	Remarks
58	Male	55	19/9/83	Recurrent epithelioma of lower lip	Excision	Good	Former operation ten years previously
59	Male	65	16/10/85	Epithelioma of lip	do.	do.	Patient's father died of cancer of lower lip
60	Male	—	5/7/88	do.	do.	do.	
61	Male	55	29/9/98	Extensive epithelioma of lip and involving angle of mouth	Modification of Zels' operation	do.	
62	Male	68	17/10/94	Recurrent epithelioma of lip	Excision and plastic operation	do.	This was the fourth time the patient was operated on. The first time was in 1874, in the Richmond Hospital; the second time, in 1884, in the same hospital; the third time, in 1892, in the Meath Hospital; and the fourth time in 1894.

ART. IX.—*A New Method of Operating for the Cure of Superficial Varicose Veins.* By W. THORNLEY STOKER, President of the Royal College of Surgeons in Ireland; Surgeon to the Richmond Hospital, and to Swift's Hospital; Surgical Fellow of the Royal University.

THE ancient prejudice which existed against the application of ligatures to veins, and which, in my own practice, I had set aside during the early wave of surgical confidence due to the introduction of antiseptic methods, has returned upon me of late years. As a result of clinical observation, I have become convinced that ligature of veins is a proceeding attended by certain risks, and, if it can be shown that such ligature, independent of any danger which may follow it, is quite unnecessary, it may be conceded that no argument need be used for the retention of the practice. I do not wish to advance the proposition that, because danger may attend it, a ligature is never to be applied to a vein. But in operations for the cure of varices, so common in the superficial vessels of the lower extremities, I advocate the total abolition of the use of the ligature on the grounds that it is an added danger, and is in any case useless. In my own practice for the past seven years I have lost three patients from septicæmia, and two of these have been the subjects of apparently trivial operations of election for the cure of varicose veins in the lower extremities. Apart, however, from these fatalities, which took place in cases in which every antiseptic precaution had been observed, I have had other reasons for forming my opinion. I have observed that when varices were treated by division and deligation, with suture of the skin, which was my former practice, the proportion of cases in which troublesome inflammation and slow healing resulted was large. Also, I have found that when erysipelas was rife it was prone to attack patients whose veins had been deligated, whereas I have not had a single case of the disease among the numerous operations I have performed for the cure of varix by the open method without the ligature or suture, which I am about to record. This observation is of more value in that erysipelas has been common in Dublin for the last two years in all quarters of the city, and that this experience has covered most of that period, and been synchronous with it. My observation of the unfavourable nature of

operations where ligature and suture have been employed has been the same, no matter what form of ligature was used, or what method of antisepsis was favoured.

A very large number of men now present themselves, both in hospital and private practice, for operation for the relief of varicose veins. They are almost invariably young, or in the active period of life, and seek to qualify themselves, by the removal of a disability, for employment in the public services. The operations are entirely of two varieties—one for the cure of varicose veins in the legs, the other for varicocele. The method I propose is usually inapplicable to the latter. The parts are too lax and unresisting, and enough moderate equable pressure cannot be applied to prevent hæmorrhage, except in those cases where the operation can be performed high up, close to the external abdominal ring, and where the tissues of the groin afford good counter-pressure to a compress and well-applied spica. For the former, and more common class of cases, the operation is universally applicable, and has shown no flaw or failure during the year and a half I have practised it.

The method is as follows:—

Preparation.—The patient is kept in bed for two or three days to allow the veins to contract, his bowels are well cleared out, and the skin of the parts to be operated on is rendered aseptic. This is effected by—

- a. Thoroughly scrubbing with soap and water.
- b. Washing with ether.
- c. Keeping for twenty-four hours in a dressing of 1 in 40 solution of carbolic acid covered with mackintosh, and changed two or three times.

Operation.—No anæsthetic is employed unless the patient insists on it. The pain is insignificant, and the probable struggling under ether or chloroform interferes with the niceties of the method, causes bleeding at the time, and if subsequent vomiting takes place may produce a blood-clot under the dressings. If anæsthesia is desired, it is better that it should be general, as freezing is inapplicable, and cocain introduced subcutaneously is likely to interfere with a rapid process of healing. No Esmarch's bandage should be applied; it empties the veins and renders them difficult to find, and its use is likely to be followed by bleeding, not only because it predisposes to intermediary hæmorrhage, but also because small vessels are

divided which may be avoided when they contain blood and can be seen. One of the points tending to success is the bloodlessness of the operation. The skin incision causes no hæmorrhage that pressure of a sponge does not soon stop. The position of the veins should not be indicated by the use of a pencil or dermatograph, as it may render the wound septic. If any doubt be felt as to finding the vessel easily, the best plan is to make the patient stand up so as to congest the veins, and slightly scratch over them at the points of operation with a sharp knife. At each place where it may be thought necessary to divide the veins an incision about half an inch long should be made in the vertical axis of the limb, the superficial fascia divided with an oculist's scissors, the vessel lifted from its bed, a quarter of an inch cut from its length, and gentle pressure applied with a sponge. When this procedure has been repeated at all necessary points, the part should be thoroughly irrigated with warm sublimate solution, flat compresses of sterilised gauze applied to each incision, a dressing placed over them, and the limb bandaged from the toes to above the seat of operation.

The patient should be kept in bed and not allowed to rise from the horizontal position for a week. If the dressings are then removed, a superficial linear ulcer will be found at the seat of each incision; these can be treated by wet dressings for a few days, when they will be found to have healed.

The principle of division of veins without ligature is not new, but it was applied to subcutaneous operations which would scarcely bear the light of modern surgery. The essence of the method under discussion is that while a ligature is not employed, the wound is treated as an open one and no sutures introduced into the skin. The advantage of these is that the danger of infecting the vein is lessened, the possibility of a clot of blood forming subcutaneously, with its attending risks and inconveniences, is avoided, and a rapid as well as a safe recovery is provided for.

Although the operation for varix is in some ways a trivial one, yet it is of such importance, in view of its frequency and possible danger, that I may be excused for dwelling on it, both in the matter of insisting on the application of established principles of cleanliness and care, as well as of considering any improvement in its method. I venture, therefore, to formulate the rules I have found good in my own practice, as follow:—

1. Due care in preparation, both by rest in the horizontal position for some days, and by suitable purgation.

2. Careful cleansing of the skin by such methods as may commend themselves to each surgeon.

3. Attention to the points I have indicated in the operation. It should be remembered that owing to the low tension of the blood in the veins, very slight pressure is required to control hæmorrhage from them, and that therefore thick compresses and tight bandages subsequent to operation are to be avoided; they are not required, and only serve to impede capillary circulation and delay repair.

4. Rest in the horizontal position for at least a week after operation, during which time the dressings should not be disturbed, unless pain, rise of temperature, or discharge indicates their removal.

ART. X.—*On Adenoid Vegetations in the Naso-pharynx.** By KENDAL FRANKS, M.D., F.R.C.S.I.; Surgeon to the Adelaide Hospital.

I VENTURE to bring before you a subject which, to a great extent, has been the monopoly of throat specialists, and which has excited much interest among them ever since Meyer, of Copenhagen, demonstrated the existence of adenoid vegetations in the naso-pharynx in 1860.

The subject is one of great interest and importance on account of the comparative frequency of the condition, the numerous evil effects which such growths occasion, the facility, as a rule, of recognising their existence, and the beneficial results, both immediate and remote, which follow their removal.

As this is the first occasion upon which the Academy has been invited to consider the question, I shall, with your permission, shortly recapitulate its history. Every practitioner has repeatedly had presented to his notice cases of children, or young adults, who have suffered from continuous colds in the head. He observes that there is an abundant muco-purulent discharge, especially in children, oozing from the nostrils, or trickling down the back of the throat. The voice is singularly deficient in resonance, the

* Read before the Section of Surgery in the Royal Academy of Medicine in Ireland, on Friday, December 7, 1894. [For the discussion on this Paper, see page 169.]

nasal consonants cannot be pronounced, and speech sounds dead. The mouth is kept permanently open, the breathing is entirely, or almost entirely, oral, and he is told by the parents that the child snores in his sleep, is restless, and very frequently has a running from the ear. If the child have a pair of large tonsils, all these symptoms were laid at their door, and their removal, when the child was old enough, was strongly recommended. Or if the practitioner happened to be one of those who have some ingrained prejudice against the removal of tonsils, the parents were told that when the child, in process of time, attained the age of thirty, or thereabouts, the tonsils would gradually subside, and the cause of all the trouble would thus be remedied by nature. If, however, the tonsils were found to be normal in size, the diagnosis then was that the child was the subject of a strumous diathesis, cod-liver oil and country air were prescribed, or, if it happened to be country-bred, it was sent to the seaside. This routine was supplemented by nasal douches, the insufflation of powders, and syringing of the ears.

In former days, while "adenoid vegetations" were still an unknown quantity, the removal of enlarged tonsils, when advocated and performed, was frequently followed by most unsatisfactory results. The snoring was perhaps mitigated, but the coryza, the oral breathing, and the ear complications, remained unrelieved. The more enterprising sought for better results by arguing that as the tonsils as a cause had been eliminated, the cause must lie in the nasal cavities, when they observed that the mucous membrane was frequently hypertrophied, and consequently scarification and cauterisation of the mucous membrane in the nasal passages, especially over the turbinated bones, was freely indulged in. Disappointment was again the reward of these attempts. It was just such a case which led Meyer to discover the *fons et origo mali*. "An instance of this kind," he says,* "led me to discover the true seat of the complaint. I had cleared the obstructed passage through the nose, removed the enlarged tonsils and the swelling of the throat and soft palate, but the manner of speaking remained as deficient as ever. The patient, a young lady, now underwent a regular course of training in pronunciation, but with no better result. She then came to me again. Having found rhinoscopy impracticable, I now passed my forefinger behind the soft palate, up into the so-called 'naso-pharyngeal cavity,' and was very much

*Med. Chirurg. Trans. Vol. XXXV. 1870. P. 198.

astonished to find this almost entirely filled up by *soft masses*, which, giving way to the finger, felt very much like a bunch of earthworms, and, hanging down from the roof of the pharynx, completely closed up the posterior nares."

Meyer succeeded in removing these growths with most satisfactory results; the voice became clear almost immediately, and the patient was able to breathe freely through the nose. When seen, eighteen months after the operation, there had been no return of her troubles.

Of the nature of these growths it is necessary to say a few words. In the pharynx and naso-pharynx, as you know, there exists normally a large quantity of adenoid tissue. The faucial tonsils are composed of it; small masses of it are found scattered over the posterior wall of the pharynx constituting the follicles; it is particularly abundant in the naso-pharynx. In the middle line on the posterior wall, at the top, where it curves over to form the vault, a large mass of adenoid tissue is conglomerated to such an extent as to have received the name of the pharyngeal tonsil, or *Luschka's tonsil*. On the lateral walls of the naso-pharynx there exists also a quantity of adenoid tissue, which can be easily recognised, when it is hypertrophied, as swollen bands extending downwards immediately behind the posterior pillars of the fauces.

Now in the two earlier decades of life this tissue is peculiarly liable to hypertrophy. This hypertrophy may be confined to one particular region, or we may find all these regions affected simultaneously with adenoid hyperplasia. Thus we frequently find the tonsils enlarged whilst the follicles in the pharynx and the adenoid tissue in the space above show no alteration from the normal. On the other hand, we sometimes find that while the tonsils appear quite normal the naso-pharynx may be completely blocked by these adenoid overgrowths. Sometimes we find the follicles on the back of the pharynx alone enlarged, but in my experience this is more frequently seen at a later period of life than when the other regions are affected. More frequently, however, we find in young subjects that the faucial tonsils, the pharyngeal follicles, and the adenoid tissue in the naso-pharynx suffer in common. Thus, if on inspection we find a child has large tonsils, and if we can see at the same time those red or greyish excrescences on the posterior pharyngeal wall, which we know are hypertrophied follicles, we may in general predicate that adenoid vegetations

exist in the vault above, and we shall seldom find ourselves mistaken.

The microscopical characters of these growths has fully established their nature, and has proved that they are composed of adenoid tissue, and are identical with the closed follicles of the mucous membrane from which they arise. That this is so can easily be seen by some sections which Prof. Scott has kindly made for me from growths which I recently removed from the naso-pharynx of a young lady who was suffering from the condition we are now discussing.

In the naso-pharynx itself we find considerable variety in the disposition of the hypertrophied adenoids. Sometimes the tissue on the side walls shows the greatest amount of enlargement; at other times the overgrowth seems to be chiefly confined to the pharyngeal tonsil itself. In many cases the whole vault and walls seem to be covered by masses of adenoid vegetations. The appearance in the rhinoscopic mirror resembles then a bunch of small grapes. When Luschka's tonsil is the chief seat of the disease, it usually protrudes from the roof and posterior wall of this space, in appearance somewhat resembling a cock's comb. Lastly, let me add that these growths may be quite soft, or they may be hard and tough. They bleed with the greatest facility, and to a certain extent are erectile, as observed by Meyer. From the fact that the presence of these growths induces and keeps up a chronic catarrh of the cavities in their neighbourhood, we find, as we might have inferred, a thickening and swelling of the mucous membrane in the nasal cavities, chiefly over the turbinated bones and over the posterior portion of the septum. The mucous membrane covering the soft palate, the pillars of the fauces, and the posterior pharyngeal wall present a similar morbid condition.

The symptoms produced by these adenoid vegetations, as Meyer first named them, depend upon their number and size, and still more upon their situation. If the growths are few in number and small, the symptoms may scarcely attract attention, or may be so reflected to other regions as to draw away the mind from the naso-pharyngeal space. Thus I have several times seen a persistent cough, for which no other cause could be found, disappear after the removal of some adenoid vegetations in the vault of the pharynx, or after cauterising some hypertrophied follicles on the posterior wall. Frequent headache has been observed in connection with these growths, occurring in about 27 per cent. of the

cases. Prof. Snellen and Dr. Guye, of Amsterdam,^a have called attention to a form of chronic catarrh of the conjunctiva which refuses to yield to treatment until the coincident vegetations in the naso-pharynx have been removed.

When the growths are so exuberant, or are so situated on the posterior wall as to completely close up the air-passage through the nose, the symptoms become so marked and so characteristic that a diagnosis can be made, so to speak, in the street. It is sufficient to have once recognised a peculiar type of countenance familiar to us all as the facies of post-nasal adenoids, to recognise it again. These characteristic signs and symptoms depend on the fact that breathing through the nose is impossible, therefore oral breathing is a necessity; hence the mouth remains permanently open. Not only are the nasal sounds m, n, and ng impossible of production—as we hear also in cases of nasal polypi—but what helps to distinguish these two conditions is that when adenoid vegetations are abundant the *resonance* of the voice in the anterior and posterior nares is entirely lost, so that the speech sounds short, stuffed, or “dead.” The nose by its long inactivity becomes pinched, and it is not unusual to find the nostrils markedly small and narrow. The open mouth with pouted lips, the expressionless face, and the lustreless eye, make up a characteristic picture suggestive of a dull and vacant mind. Indeed it has been frequently noted that children suffering from post-nasal adenoids are usually so dull and inattentive at their lessons that a new term has been coined, and the mental condition styled *aproxesia* (*a* and *πρόσεξις*—attention).

More important than any of these symptoms, however, are the ear troubles which accompany this disease, and are directly due to it. Ingals, of Chicago,^b states that he has found the sense of hearing impaired in 83 per cent. of his cases. In mild cases or in the earlier stages a temporary deafness ensues whenever the patient catches cold, which in cases of adenoid vegetations occurs pretty frequently. After a time the intervals of good hearing become shorter, and deafness more persistent. Pain in the ear and tinnitus are frequently complained of; aural treatment, the use of Politzer's bag, or the Eustachian catheter gives relief for a time. If the presence of adenoids is unrecognised, or if they remain untreated, the condition of the ear becomes more and more

^a Trans. Internat. Med. Congress. 1881. Vol. III. P. 290.

^b Journal, Amer. Med. Assoc. Sept. 22, 1894.

aggravated, chronic otitis media becomes established, inflammatory changes take place in the delicate conducting apparatus of the middle ear, and the hearing is irretrievably damaged. Otorrhœa is very frequently observed in these cases.

These changes in the ear are rarely due to the mechanical obstruction of the trumpet-shaped openings of the Eustachian tubes at the back of the nose by means of these growths. We find ear troubles in cases where the growths do not directly impinge on these openings. They are due to the chronic catarrh which is an invariable consequence of these adenoid vegetations. The chronic inflammation and consequent swelling and thickening of the mucous membrane, already referred to as existing in the nasal cavities, spread into the Eustachian tubes, and by degrees diminish the lumen, or during exacerbations block them up altogether.

In the presence of adenoid vegetations in the naso-pharynx we have, I believe, the most prolific cause of that large class of cases which are indifferently grouped together under the head of "throat deafness," and I believe that when exploration of the naso-pharyngeal space becomes more general, and its treatment more thorough in early life, there will be fewer people to deplore that in the race of life they have been so heavily handicapped that they are practically disqualified for the competition.

The usual period for these growths to declare themselves is about the third year. One of the earliest symptoms is that the child sleeps restlessly; it keeps tossing about, and is frequently terrified by bad dreams. The child sleeps, indeed, but he does not rest. The ravelled sleeve is but poorly knit up, and consequently he looks unhealthy, and develops badly. All the ill effects of oral breathing become by degrees apparent. At night, as the mouth remains open, the saliva is not swallowed, but trickles out on the pillow. The constant muco-purulent discharge from the back of the nose trickles down to the throat, is swallowed, and gradually destroys the appetite. The mental dulness of the child, the waxen, sometimes greyish, aspect of the face, the general delicacy so frequently complained of by the parents, may all be referred to one consequence of these growths—the deficient supply of oxygen—the chronic carbonic acid poisoning of the system due to defective respiration.

Lowenberg* has called attention to a remarkable deformity of the chest walls which he has observed in many cases of very

* *Les Tumeurs Adenoides du Pharynx-Nasal*. Paris. 1879.

voluminous adenoid vegetations in young subjects. At the International Medical Congress in London in 1881, he thus describes it:—"The sternal ribs are depressed towards the lungs; their cartilages, on the contrary, bulging outwards, form a series of projections without, however, presenting the knotted, beady appearance of rachitis. The sternum, instead of projecting forwards, is remarkably depressed, especially towards the xiphoid cartilage, which is often sunk deeply inwards." He considers that this malformation occurs in early life, when the adenoid growths are beginning to impede respiration through the nose, and the child has not yet learned to breathe easily by the mouth. At this period at every inspiration sufficient air does not enter the lungs to satisfy the vacuum formed, hence the external atmospheric pressure is not sufficiently compensated by the internal pressure, and at this early period the yielding thorax succumbs to the increased strain.

Among children a host of remote symptoms, what may perhaps best be described as reflex symptoms—such as choreic movements, spasmodic croup, strabismus, &c.—have been found associated with post-nasal growths, and have disappeared when these growths have been cleared away. Moritz Schmidt lays special stress on the occurrence in many such cases of nocturnal enuresis, and advises us to bear this fact in mind in dealing with this distressing condition.

Among adults I have found reflex symptoms comparatively few. The most frequent is a distressing, hacking cough, sometimes in its paroxysms resembling whooping cough, generally without the satisfaction of expectoration. I have also observed violent sneezing, sometimes coming on at a particular hour each day, with all the usual signs of hay fever. But these cases are the exception. Adults generally seek advice on account of the discharge trickling down the throat from behind the nose, or the nasal obstruction, or still more frequently on account of defective hearing.

The ætiology of adenoid hypertrophy presents many difficulties. The causes which lead to vegetations in the naso-pharynx are similar to those which lead to hypertrophied tonsils. They are attributed to hereditary influences, and I have frequently observed that one or other of the parents who bring their children for treatment frequently presents the characteristic appearance and symptoms which indicate that the parent has, at an earlier period, suffered from the same malady. The exanthemata are responsible for a certain number of cases. Thus Dr. Ingals found that in 100 cases 3 per cent. appeared to form immediately after measles,

4 per cent. after scarlet fever, 1 per cent. after diphtheria, and 3 per cent. were attributed by the parents, or the patient, to pneumonia or influenza. In 63 per cent. nothing could be discovered which appeared in any way to account for the origin of the disease.

The diagnosis of adenoid vegetations can in general be easily made. In well marked cases the symptoms are so prominent that a diagnosis can be made on them alone. In others, especially where the symptoms are more of the remote or reflected kind, the diagnosis can only be completed by careful examination, which consists of two methods—inspection and exploration by the finger. These, when practicable, should be resorted to in all cases, either to originate or to complete the diagnosis. To inspect the post-nasal space, recourse must be had to the rhinoscope. In young children this is frequently impossible, but when practicable, as it generally is, it affords the most valuable information. We can then see these growths, if they exist; we can estimate their size and situation. The other method of examination has the advantage that it can be employed when the rhinoscopic mirror is useless. The method I employ is to stand behind and to the right side of a patient seated on a chair. The left arm encircles the head, and steadies it, while the left hand, if necessary, can hold something between the patient's teeth, if there be any danger of being bitten. Then the right forefinger, with the palmar surface upwards, is introduced into the mouth, and passed rapidly till the pharyngeal wall is reached, when, by crooking it upwards, it can with a little practice be insinuated into the naso-pharyngeal space without difficulty. The presence of adenoids is very easily recognised, and when once felt could never be mistaken. This examination will cause a little bleeding on account of the vascularity and extreme softness of these growths.

It is an unquestionable fact that as a patient approaches the age of 30 or 35 adenoid vegetations in the naso-pharynx, like the tonsils themselves, have a tendency to undergo a retrograde process and to atrophy. If we could be sure that in the meantime they would do no mischief of a more or less permanent kind, we might well leave them alone and trust to the unaided powers of the great *vis medicatrix Naturæ*. But this is just the very thing which we cannot be sure of—nay, we know very well that the evil effects of such growths outlive the growths themselves. The effect on the personal appearance, which is never lost when once

firmly established, is the least part of the harm done. Granular sore throat, as a consequence of these adenoids, forms a most remunerative disease for the throat specialist.

Among a host of other ill effects one stands prominently forward, not only as one of the most frequent, but as one of the most calamitous sequelæ of neglected post-nasal growths. That one is the damage done to the ears, and which forms the great bulk of cases of so-called "throat deafness."

The treatment of these adenoid vegetations resolves itself into two categories—the medical and the surgical. The medical treatment consists of the employment of medicated douches, or insufflations. Solutions, either douched or snuffed up through the nostrils, should be used at blood-heat. They should be approximately of the specific gravity of the blood, of anything a little denser. The most useful salts are—the chloride and bicarbonate of sodium, biborate of soda, or boric acid, the chlorate of potassium, and the chloride of ammonium. These may be combined together according to the view of the prescriber. I have also found Condry's ozonised sea-salt very useful; a small teaspoonful of the salt to a pint of water, at 100° F., makes a solution of the desired quality. This solution may be used with a Thudichum's siphon douche, or it may be sniffed up each nostril; the former is the preferable method. In very small or very recently hypertrophied adenoids this method may occasionally effect a cure; but as a rule it is only palliative, and the slightest provocation, such as a cold, will bring back the symptoms.

When more radical treatment is required—and that is the case in by far the larger number of cases—if the growths be small and sessile, and doing comparatively little mischief, they may be cauterised. The best caustic for this purpose is, I consider, chromic acid; but it requires very careful manipulation to apply it to the adenoids, and the adenoids alone. The galvano-cautery is sometimes advocated, but I have found its use in the naso-pharynx very cumbersome, because it should not be employed except with the assistance of the rhinoscope. A simpler and a better method, where very little requires to be done, is to pass the finger into the post-nasal space as already described, and if the nail be in good condition rapidly to scrape off any growths which may be felt. This is a good method when we are sure that the amount to be removed is so small that everything can be done without having

to introduce the finger a second time. The discomfort of the proceeding to the patient, and the amount of hæmorrhage which follows it, though of short duration, will in most cases prevent the patient from undergoing a second trial, and if all the growths have not been removed the ordeal for the patient will prove to have been useless.

In a very large number of cases a more radical treatment is required, and if it be undertaken the most important point to bear in mind is that *all the growths* must be effectually removed. When this is not done a relapse is almost sure to follow, with its accompanying disappointment. A relapse, when the operation is thorough, is in my experience of extreme rarity. I will shortly describe the method I adopt, but first I must say a word about anæsthesia. Several men have advocated the use of nitrous oxide in all cases of post-nasal growths requiring anæsthesia; this, I think, is a great mistake. Our object being to remove all the growths, I am convinced from experience that the time allowed by nitrous oxide gas is altogether too short. The only thing which can be said in favour of this gas, besides its safety in these cases, is that with it hæmorrhage is certainly less; but under chloroform I have always found that the freer bleeding can be easily controlled. The certainty which we can have that all the growths have been efficiently dealt with far outweighs any of the inconveniences which accompany or follow the administration of chloroform. But it is essential that the anæsthetic should be entrusted to an experienced administrator; I know of few operations which make a greater claim upon his coolness and skill. It has been advocated by Mr. Edmond Owen and by Mr. Parker that the patient should not be profoundly narcotised, that the laryngeal reflexes should not be abolished, and the reason given for this opinion is that any blood which may find its way into the larynx will be immediately expelled by coughing. I cannot coincide with these views. In Rose's position, which I always adopt, I cannot understand how blood can possibly get into the larynx if we only sponge carefully enough. On the other hand, nothing so impedes the operator or is so dangerous to the patient as reflex vomiting, and in my opinion it is more important to abolish this reflex than to preserve the laryngeal. Perhaps my views on this point have been largely influenced by having had, in nearly all my cases, the advantage of the assistance of such an accomplished anæsthetist as Mr. Piel. He always has kept up the requisite profundity

of narcosis without ever giving me any anxiety as to the safety of the patient.

The arrangements we make in one of these cases are as follow :— The patient is allowed no food for five hours at least previous to operation; the table is placed with its head in a good light. When the patient is anæsthetised he is drawn forwards, so that the head hangs well over the end of the table. A towel is bound firmly round the head, below the occiput behind, in front just above the brows. As the head hangs downwards, the blood, which usually pours out of the nostrils, runs down the forehead into the towel, and is thus prevented from matting the hair. In girls especially this is a very necessary precaution. A Fergusson's gag is now placed in the left side of the mouth, and is managed entirely by the anæsthetist. A well-trained and competent nurse must be close at hand with sponges ready, several small ones being secured on handles; a second nurse is desirable, as the time of one is fully occupied in cleaning the sponges. I have entered rather minutely into details, because it is all-important to have everything at hand and ready, as once the operation is begun there is no time to spare in looking for what may be required.

The operator sits or stands at the head of the table, with his back to the light. The general disposition of operator, anæsthetist and patient in Rose's position, is shown in the photograph. If the tonsils are enlarged, I remove them first. The instrument I now use is the ordinary Luer's guillotine, with the simple modification that the prongs have been removed. My reason for this is that if the tonsil be tough, instead of the barbed prong dragging the tonsil well into the loop of the guillotine, the reverse sometimes takes place, the prong is dragged through the loop by the tonsil, and when the blade is liberated, it slips over the prong and becomes jammed—an accident most aggravating when time is precious, and which requires some ingenuity to overcome. I prefer using this forceps as a substitute; the toothed end is passed through the loop of a guillotine first, and then the tonsil is seized. The loop of the guillotine now is passed down along the closed forceps until it encircles the tonsil. The forceps now draws the tonsil well out of its bed, and then the guillotine is worked slowly, so as to squeeze as much of the root of the tonsil as possible before dividing it. I generally prefer a blunt instrument. I cannot say I care much for Mackenzie's guillotine. It acts more by pushing the pillars of the fauces away from the tonsil, instead





of drawing the tonsil out, with the result that a piece of the pillar very frequently slips into the ring, and is snipped off by the blade. This not only makes subsequent deglutition more painful, but a snipped pillar bleeds more than the entire cut surface of the tonsil. When both tonsils have been removed we need not delay to stop the bleeding, which may at first be brisk. As it collects in the hollow of the palate it can be easily sponged out. I then pass my finger up behind the palate, form a rapid estimate of the position and size of the growths, and then I pass up a Gottstein's curette, which is, I think, the most useful and the most manageable of the innumerable instruments which have been devised. With this instrument I scrape the vault, posterior and lateral walls of the post-nasal space freely. Occasionally the finger is passed up to ascertain if all the growths have been removed. On a few occasions I have worked with a small curette passed through the nose, and with my finger-nail passed up behind the palate.

Some men endeavour to dispense with curettes and forceps, and to scrape away the growths with the finger-nail. A few small growths can be got rid of in this way; but I am quite satisfied that, in the majority of cases, the unaided finger-nail is not sufficient. I have very good nails, and I do not bite them, still I find they are not capable of doing what a curette can do thoroughly. The artificial finger-nail recommended by Sir William Dalby is a most awkward and unmanageable instrument, and with it the sense of touch is rendered useless. Whilst this process of scraping is going on, bleeding is generally profuse. It is very soon seen to pour out through the nostrils, downwards over the eyes to the forehead, and into the towel, or on to the mackintosh sheet which lies on the floor. As soon as the scraping is completed, I sponge out as much blood as I can, then a retractor is passed through the mouth, so as to draw the uvula and soft palate forwards, and then I proceed to rapidly plug the post-nasal space. The plugs I have already mentioned, covered with the tannic and gallic acid mixture, are passed along the retractor, and they glide of themselves into the naso-pharynx. With my fingers I press them up into position one after another until the whole space is filled. I find this an admirable plan for arresting the bleeding from the tonsils, as well as from the space above. The strings attached to the plugs are allowed to hang out of the mouth. I now wait for a few minutes, until I have reason to think that the bleeding has stopped, and

then I cautiously remove the plugs before the patient is allowed to come from under the anæsthetic. Should any bleeding reappear, a second plugging can be resorted to ; but this is seldom necessary, a little oozing is of no consequence. The patient is then put back to bed, turned well over on his side, so as to allow any oozing to escape from the nose and mouth. I have only in one case been obliged to replug the post-nasal space some hours after the patient had recovered consciousness. I found no difficulty in carrying out the method described above.

The after-treatment is of the simplest. I see no advantage in carrying out an elaborate system of nasal douching for weeks afterwards as practised by Meyer and others. If things go on as they generally do, I leave the patient alone, and generally find that he is able to be up and about as usual within a week. For the first three days I keep him in bed, and for a couple of days longer in his room. By that time all soreness has gone, and deglutition has become quite easy.

The after-results are, in a very large number of cases, most satisfactory. The symptoms for which the operation is done disappear ; the dull-eyed, vacant-looking boy, with open mouth and impaired hearing and defective speech, becomes, during the course of a year, bright and intelligent. His hearing, if taken in time, becomes keen and his speech good. He keeps his mouth shut if taught to do so, sleeps quietly at night without snoring, and improves in health. It has been estimated that a child who has been stunted by adenoid vegetations grows twice as much during the year succeeding their removal than he would under ordinary circumstances in the same period, and it has also been estimated that the weight sometimes increases in a year by 30 per cent.

Of course many cases do not show very startling results, but I think I am justified in saying that, taking the cases all round, there are few operations which can show so much after-good to the patients as the removal of adenoid vegetations from the naso-pharynx.

ART. XI.—*Small-pox: its Diagnosis and Prognosis.** By JOSEPH O'CARROLL, M.D., F.R.C.P.I.; Physician to the House of Industry Hospitals, and to the Children's Hospital, Dublin.

IN the discussion of the subject of this paper I can hardly pretend to have much that is new to say. I can only hope that the statement of my own experience may have some merits due to its personal character, as we sometimes hear with pleasure, and remember with comparative ease, incidents of ordinary life or foreign travel when told by him to whom they happened, which would slip out of our memories if read in a book or newspaper.

I must say, at the start, that for practical purposes I draw no distinction between true unmodified variola and the disease as it occurs in persons who have been vaccinated. Either permits of recovery or death; both may present difficulties of diagnosis. My object, again, is not to give a differential diagnosis of small-pox at all its stages, but to supply some help in deciding at one visit whether we have to deal with a case of that disease or not. To delay too long in recognising a case as one of small-pox, or to send a non-variolous case into a small-pox ward, is equally a serious mistake.

Small-pox must be recognised from the history (opportunity of infection, mode and dates of onset), the symptoms, and the eruption. I may be pardoned for recalling the typical points in regard to these matters. On a certain day—the first day, or day of onset—the patient feels ill, has headache or backache, or general pains in the bones, and some rigors. Next day he is still sicker, vomits, or at least feels nausea. On the third day the eruption makes its appearance, or it may be delayed till the fourth. The temperature has risen on the first day possibly to 102° or 103° ; on the second day possibly to 104° . It is usually stated that the temperature falls somewhat critically on the appearance of the rash. That is not exactly our experience, but rather that it takes a couple of days to fall; those days—namely, the third and fourth, or fourth and fifth—on which the rash is extending over the body. For the rash, papular in character, comes out first on the face, then on the wrists, then it appears on the legs, the trunk, and, last of all, on the palms and soles. By the time papules have appeared in these

* Read before the Section of Medicine in the Royal Academy of Medicine in Ireland, on Friday, January 11, 1895.

last the eruption on the face has become vesicular. During the fifth and sixth days the majority of the papules become vesicular, and in a considerable proportion of cases the vesicles become umbilicated, the temperature at the same time being almost normal, or at least subpyrexial, and the patient feeling almost quite well. From the seventh to about the twelfth day the vesicles become pustules, and these gradually burst or dry up into scabs, the temperature during those days forming a somewhat rounded curve, usually known as the secondary or suppurative fever. The patient is again ill, this time with asthenic symptoms, which gradually improve from the eleventh or twelfth day, till about the eighteenth or twentieth day he is quite well again.

I have described a typical case with favourable ending. I have to add that some cases have no secondary fever, and are practically out of all danger by the seventh or eighth day; while others die at all periods of the disease, from the third day to the third or fourth week, and as a result, for the most part, either of the initial virulence of the infection, or of the amount of the later suppurative process.

It is easy to see that a disease which has so many phases must present a great many resemblances to other morbid conditions, and that it is no wonder that mistakes in diagnosis should occasionally occur. The onset of variola is exceedingly like that of influenza, by reason of the rise in temperature, and the headache, backache, and general pains in the bones. Similarly it may resemble acute rheumatism, typhus, and cerebro-spinal fever. The headache may suggest enteric fever, but the onset is too sudden. Practically, it may be stated, small-pox is seldom diagnosticated with confidence till some eruption has occurred, but it is not always a simple matter even then. Certain initial or preliminary eruptions occur in about 10 to 15 per cent. of small-pox cases. These may be local or general, petechial or erythematous. The local ones affect mostly the groin region, or the groins and axillæ, and have usually a purpuric character; the general ones simulate scarlatina or measles. Assuming the presence of an epidemic, and the onset symptoms in a particular case suggesting the possibility of small-pox, the presence of one of these rashes might practically complete the diagnosis. But diagnosis would be difficult in a case such as occurred in the Hardwicke Hospital, where a man, covered with a scarlatinal rash, stated that his child had died of scarlatina a few days before, were it not that the variolous papules were appearing through the

general erythema. I think it may be said that the diagnosis of small-pox cannot be absolute till the specific papule has appeared. One exception, perhaps, may be made to this statement—namely, that in some cases of hæmorrhagic small-pox, marked by violent onset symptoms, and characterised usually by persistent backache, and in which, therefore, the diagnosis is pretty clear, death may occur before any papular rash manifests itself.

The diagnosis of the eruptive stage of small-pox is not always as easy as one would suppose. A hæmorrhagic case may be mistaken for one of severe purpura or scurvy, or *vice versâ*. Sometimes a common sweat-rash is mistaken for that of variola, or a very discrete, small pustular rash, confined to the face, may be mistaken for *acne sebacea*. Cases of variola, with what is called a corymbose eruption—that is, in which there occur, perhaps, two or three patches of thickly-clustered and rapidly-cohering vesicles—may simulate herpes zoster if the corymbose patches are much in advance of the remaining eruption. Strange to say, Fagge states that he never saw this form of eruption. It happened that I saw the very first case of the present epidemic in Dublin under the following circumstances:—On my lecture morning at the Whitworth Hospital, I was brought by my resident pupil to look at a case of supposed skin affection which had been admitted the night before. The man made little or no complaint, except of a cough which proved to be associated with tubercular disease in the apex of the left lung. He presented, on the inner surface of each thigh, a herpetic-looking patch about four inches by three in size, but on closer examination a few fine papules could be found here and there over the trunk and limbs. I had him at once removed to the Hardwicke observation wards as a probable case of small-pox, and when I saw him again a few hours later all doubt was removed from my mind by finding the general eruption much further developed.

Scabies may easily give rise to some diagnostic difficulty; so may impetigo; and so may syphilis, with either papular or pustular eruption, especially if of rapid development. During a small epidemic, treated in the Hardwicke in 1887–88, a woman was sent in as a case of small-pox in the pustular stage. She looked very like it, but she was by no means so sick as such a plentiful rash would have warranted, and further, a valuable diagnostic point, the eruption was in some places papulo-roseolar. She was recognised as a case of syphilis, and before she left the medical ward to

which she was transferred, she had developed a syphilitic lupus which eroded the alæ of her nose. But a serious difficulty may occur if a mild variola occur in a patient with secondary syphilitic eruption. This happened to one of our recent cases—a man who was sent into hospital only when the variolous eruption had, as it were, raced past the syphilitic one, coming out on the palms and soles, and developing the typical vesicles not merely on the skin but on the palate and throat.

Varicella or chicken-pox may resemble variola very closely, and during an epidemic of small-pox the diagnosis between the two diseases at one visit may be decidedly difficult. Characteristic cases of the two diseases are, no doubt, easily differentiated; but where either approaches the type of the other the difficulty is increased. To this audience I need not rehearse the many points of difference between these two diseases; the incubation, the onset, the eruption, the course, the sequelæ, usually help us to separate the diseases at once. But cases occur in which we have no such help, and taking these exceptional cases as my justification I venture to state, in the first place, that cases of small-pox may have little or no illness leading up to the eruption or afterwards; that the eruption may be very scanty; that it may not be noticed till it has already become vesicular; that the vesicles may, for the most part, dry up or burst before they undergo any umbilication; that there may be no fever, at least during the time the patient is under medical observation; and there may be no pitting of the skin afterwards. In the second place, that cases of varicella sometimes occur with somewhat severe onset symptoms—even with convulsions, as recorded by Fagge—with a general papulo-vesicular eruption, involving even the palate and fauces, in which presently some umbilication becomes perceptible, with, around the vesicles, a suspicious areola, which when the vesicle becomes purulent sets up a close resemblance to the small-pox pustule; the fever runs, perhaps, to 102° or more, and afterwards some pitting is left and the patient may suffer from more or less debility. On the one hand, then, cases of small-pox may possibly be passed as chicken-pox; on the other, cases of varicella are likely—especially during an epidemic of small-pox—to be sent into hospital as having variola. I need not say what evil consequences may flow from either mistake.

Now I cannot presume to lay down any rules by which such errors may be absolutely prevented. It is true that if we could

afford to watch the case for two or three days we could hardly fall into the error at all, but where small-pox is epidemic delay is surely dangerous. Picturing to myself a difficult case, I shall attempt to indicate the points on which to rely for a satisfactory judgment at a single visit.

If there be a history of two days' illness before eruption, it makes for small-pox; also if the eruption is better marked on the forehead and face than on the trunk, the reverse usually being the case in chicken-pox. If papules have distinctly been noticed in advance of vesicles, and if at any given region, such as the face or the trunk, the rash is pretty uniform, that is, either papular or vesicular and not mixed; if the development of the rash has been from the face downwards, the legs coming last; and finally, and as I believe an essential point, if the papules can be seen or felt on the palms of the hands and soles of the feet. On this I should lay great stress; I do not think I have seen a single case of small-pox without at least a spot or two among those four surfaces, and I do not remember ever to have seen a varicella vesicle on them. If it does occur, it must be very rarely indeed. Further, it is well to remember that, in persons bearing good infancy vaccination marks, small-pox is rare before ten years of age. Lastly, should doubt still remain we should vaccinate, and take care to vaccinate effectively, both for the sake of the diagnosis and for prophylaxis.

The prognosis in small-pox has to deal with death or recovery; and if recovery is probable, as to possible permanent ill consequences. My experience of evil sequelæ from small-pox is practically none, unless we include pitting among them. With regard to pitting, I am quite of Osler's opinion that its prevention "is really not in the hands of the physician. It depends entirely upon the depth to which the individual pustules reach." If the pustule destroys a portion of the cutis vera there must be a pit or a scar; therefore, whenever and wherever the eruption is scanty and superficial, and the epidermis thin, there is less likelihood of pitting than under the converse circumstances.

As regards life, I think it may be said that prognosis in small-pox should be very guarded till convalescence is well established. The mildest cases cannot be said to be quite free from danger till the eighth or tenth day, but there are certain cases in which death may be said to be as probable as survival; some in which death is almost certain. The gravity of a case is of course greatly

enhanced by the fact that the patient has not been vaccinated, and in infants and children the danger is vastly magnified. On the other hand, well-vaccinated children, if they take the disease, probably get over it easily.

The earlier the eruption appears after the onset the greater is the danger of its becoming confluent and severe. We have had some striking examples of this statement, though on the other hand some of our cases had distinctly early, and at the same time scanty eruptions. The question of confluence has more bearing upon prognosis. The term *confluent* is, it seems to me, too frequently referred to the pustular stage; but in the pustular stage there are several more valuable criteria of prognosis than the mere configuration of the eruption, and besides, more or less confluence is very common indeed in the pustular stage. In so far as confluence of the eruption is of value as an indication of future severity, it may be guessed at and measured in the vesicular period—that is, about the fifth or sixth day. The more confluent the rash is or promises to be upon the face, the greater the probability of a severe secondary fever and the greater the risk of an unfavourable ending. But confluence, *per se*, has no mysterious significance; it is a measure of the thickness with which the eruption is developed, and to some extent of the depth of true skin involved. The more plentiful and the deeper the eruption the more danger. To a particular form of confluent rash the term *corymbose* has been applied; I have defined it when discussing diagnosis as resembling a very close-set herpetic patch. Marson, as quoted by Fagge, found the mortality of patients affected with this form to be 41 per cent. We have had several examples of *corymbose* rash, and we have not learned to associate them with any special danger, unless when occurring on the face.

The gravity of hæmorrhagic small-pox needs no telling here. But it may be well to define as far as possible the elements which constitute a hæmorrhagic attack. In the first place let us put the absolutely hopeless cases, in which there is bleeding from the urinary tract, or from the alimentary canal. Some of these cases may have at first only bloody sordes on the lips or teeth; but by-and-bye there is distinct bleeding from the gums or the nose, or from the bladder, vagina, or anus. In such cases the rash may hardly have appeared; when it does, it is papulo-purpuric. It seldom has time to become vesicular; death always occurs before pustulation. A still severer hæmorrhagic case may simply look

bluish or extremely cyanotic over the whole surface, with here and there still deeper purpuric patches, and may die without any sign of internal hæmorrhages before any but the most rudimentary papules can be discerned.

But there are cases less striking than these in which the prognosis is only a shade better. They are those in which the eruption has time to appear, but appears in a hæmorrhagic form. Either the papules are at their eruption surrounded by a petechial areola, or when they become vesicular the vesicle fills with blood, not serum. A few sanguineous vesicles on the legs are not of evil import, but the higher the vesicular hæmorrhages reach the greater the danger, and if the face and arms have petechial papules or sanguineous vesicles the outlook is, as a rule, most gloomy.

Next to the hæmorrhagic eruption we may take the plentiful but slow and ill-developing rash as an omen of danger. The papular rash, which is plentiful, and has deeply stained areolæ, and becomes vesicular very slowly, and in which the vesicles do not come to the normal size or prominence, but remain small and flat, is decidedly a dangerous eruption.

Having said so much for the special characters of the variolous attack as they are of value for prognosis, I may now note some other circumstances which predispose to an unfavourable ending. In a highly septic infection such as this considerable strain must be thrown upon the kidneys. As might be expected, a large number of our cases have had symptomatic albuminuria; but cases of antecedent renal disease have a poor chance of recovery. Two of our cases died in uræmic convulsions at the same time that the rash was of the very scantiest, and almost at its outset.

Previous intemperance is also a potent factor for ill in small-pox, a fact of which we have had examples. Lastly, pregnancy is said to produce abortion, which in most cases ends fatally. We have had no case of abortion, but we have had some cases in which a normal parturition appears to have been determined by the onset of variola. In each case the mother has survived, and the infant, notwithstanding vaccination immediately on recognition of the mother's disease, has contracted the disease and died.

Lastly, let me add, that a preliminary eruption adds no gravity to the prognosis, not even if purpuric, provided it is confined to the groin region. Of course a general purpuric eruption would be an almost fatal sign.

I laid stress a little while ago on the uncertainty which hangs

over the average case of small-pox till convalescence is well established. Let me illustrate this briefly. Several of our cases have died quite unexpectedly after a few hours of dyspnea, with a diffuse broncho-pneumonia; one, not an albuminuric, and with a slight rash, died of convulsions; and another almost convalescent died of acute oedema of the glottis.

In conclusion, I desire to say that I have not introduced statistics into this paper, because the number of our cases is still too small to give statistical results of any value. My object has been to say something which might be helpful to others during the presence of the epidemic in the recognition of the disease and its dangers to life.

NAIL-BITING.

THE *Medical Record* notices some curious investigations by Dr. Berillon, of Paris, into the habit of nail-biting amongst French school children, who seem to be specially addicted to the habit. In one school 20 per cent. of the boys and 52 per cent. of the girls bit their nails. He found that, in both sexes, the age most liable was from 12 to 14 years. "In all the schools where the children have been the objects of careful and attentive observation, the reports have agreed in pronouncing that pupils observed to have the habit are universally the poorest students; that if boys they are inclined to effeminacy, and if girls to slackness. In many there are marked defects of character and less sustained attention. The reports of writing-masters also declare their writing to be, while sometimes well-formed, universally less legible and less regular, and the instructors in the Parisian schools for manual training have pronounced the habitual nail-biters hardest to teach and often unfit for technical education. Among such pupils some have shown brilliant intellectual traits. Some are possessed of an astonishing memory, or show exceptional adaptability to certain arts or certain special studies. Of these "infant prodigies" a large proportion are found to be nail-biters. In such cases the exceptional brilliancy was of unnatural and ephemeral growth, and vanished at the age of fourteen or fifteen. The extraordinary development had compromised the normal evolution of the nervous system. In schools for children from six to eight years old these pupils cited by the matrons as most incorrigible, and upon whom fell the most constant discipline, were found, almost without exception, to be possessed of the habit. In general, the nail-biters were found to be of decided inferiority, both from a point of view of intellectual development and from that of moral sensibility."

THE LUCAN DAIRY PROCESS

For the Sterilization and Filtration of Milk.

THE paramount importance to everyone of avoiding contaminated milk, especially at times like this, when an epidemic is present in the city, is my reason for calling your attention to the above subject.

In 1893 I undertook to supply to the public

Pure Milk in Clean Vessels from Healthy Cows.

In order to fulfil these conditions I adopted elaborate precautions, of which I now give a brief *resumé*.

- Cows.** Entirely grass fed in summer. Carefully housed, partly grass-fed, and regularly exercised in winter. Inspected at short intervals by experienced V.S.
- Vessels.** Scalded thoroughly by super-heated steam. Lids cleansed by same method. Water used for washing certified by analysis to be safe.
- Employees.** Regularly inspected by a Fellow of the Royal College of Surgeons. Suspended from duty on slightest complaint of illness.
- Milk.** No foreign substance added. Samples frequently taken from our shops and carts by trustworthy inspectors, so as to check all possible adulteration.
- Sterilization and Filtration.** (Patent Process.) Effected by passing the milk through a complicated series of filters, the efficiency of which is evidenced by the removal of all sediment from the milk. Then by subjecting the milk to the action of a sterilizer, it is rendered absolutely free from contamination.

R. G. NASH,

24 Parkgate-street, Dublin.

The fact that Mr. Ernest Hart has published reports of no less than 74 epidemics of disease, afflicting 5,044 persons, and caused by pollution of milk, ought to prove, even to the most sceptical, that in drinking carelessly-collected unsterilized milk they run a very serious risk.—*See Brit. Med. Jour., Sept., 1894.*

THE REPORT OF THE EMINENT BACTERIOLOGIST

Dr. EDMOND J. M'WEENEY, M.A.,

Professor of Pathology, University Medical School, and Pathologist to the Mater Misericordiae Hospital, Dublin.

"To the Manager, Lucan Dairy.

"I have frequently and carefully examined the process of sterilization by heat and filtration to which the milk of the LUCAN DAIRY is subjected under Nash's patent process; and I have personally collected many samples of the milk, and made a bacteriological examination of them. The process used is **perfectly harmless**, no foreign substance is added, and the **nutritive value of the milk is not in the slightest degree impaired**, while the objectionable sediment, which exists to a greater or lesser degree in all milk, is altogether eliminated. The keeping properties of the milk are greatly increased by the process of filtering and sterilization. Coupled as it is with the periodic medical inspection of your employees, and the carefully enforced veterinary examination of your dairy cattle, I consider that your system of dairy supply could hardly be improved upon in point of efficiency and safety.

"EDMOND J. M'WEENEY, M.D., &c.

"27th August, 1894."



PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Manual of Diseases and Deformities of the Spine. By R. L. SWAN, F.R.C.S.; Surgeon to Dr. Steevens' Hospital, and to the Orthopædic Hospital, Dublin. Dublin: Fannin & Co. 1894. Pp. 194.

WE have perused this book with the greatest pleasure; for it is evidently the work of a man who has had a large experience in the special department of human ills with which he deals. The large bibliography to be found at the end of the book shows how freely the author has drawn from the works of others, and how freely he gives credit to those to whom credit is due, and yet we find that the book before us partakes more of the character of a condensed *résumé* of personal experience and observation, than of a re-hash of the experiences and opinions of others. The book is designed evidently for the use of practitioners more than for students. We do not find the leaded type interspersed throughout the text which indicates to the student where he shall find the stereotyped answers to the stereotyped questions. Nor do we find that systematic arrangement and classification of diseases and their symptoms which are so suggestive of the "grind" room, or the lecture theatre. The author tells in each chapter, in simple language, sometimes a little too condensed, the story of a particular disease, the symptoms by which it may be recognised, what experience has taught him regarding the course it is likely to run, and how best that course may be arrested.

Unlike most books dealing with a particular branch of medicine or surgery, the book before us does not begin with elaborate chapters on the anatomy of the spine, and the physiology of the spinal cord. The author plunges at once *in medias res*. We find ourselves at once face to face with spinal caries. The author gives a very clear and practical account of the disease affecting the cervical, dorsal, and lumbar regions. Among the symptoms of spinal caries he mentions as very significant a fixation of the spines of the affected bones. How-

ever, such a fixation may occur without any evidence of existing disease. This latter, the author is convinced, may result from either rheumatoid arthritis, or from a previous osteitis which may have thrown a bony bridge over the intervertebral discs. A good illustration of this will be found at page 12. The difficulty in diagnosing at an early stage, caries of the lumbar bodies from lateral curvature, causes many errors, which may be followed by disastrous results. The practical suggestions given by the author for avoiding such mistakes in diagnosis are very clear and simple (p. 17). The chapter on spinal abscess deals very fully with the various forms in which such abscesses present themselves. The author believes that pus in the situation of the disease is invariably formed, but that it may, in an early stage, be resolved, and either disappear by absorption or may be altered by the removal of its fluid constituents into a friable calcareous material. He believes that in many cases, even of well-defined abscess, such resolution may occur, and therefore that operative interference should not be too hastily undertaken. The surgical mind generally will endorse this view. To bring about or assist this termination, the first and most powerful agent is rest to the part, as movement is "undoubtedly the main factor in the production of abscess." The various methods of procuring this rest, the appliances which may be used, the importance of attending to the minutest details of hygiene in connection with these cases are very fully and judiciously described in chapters III. and IV., and well deserve perusal by those who are called on to treat this difficult class of disease. We entirely concur with the author's wholesale denunciation of the treatment of spinal caries by the issue, "so long hallowed by the name of Pott." When certain signs are present, the author considers that a spinal jacket should be applied, and he knows of no better appliance than the plaster jacket of Sayer properly applied. We are glad to find that he believes that the horizontal position on a hammock is the most convenient and best method of applying the jacket—a belief in which we fully concur. In cervical caries, two methods for immobilising the spinal column are usually followed, the jury mast and the pneumatic collar. He gives decided preference to the latter, and describes and illustrates a collar which he devised, and which he has found to provide an easy and yet sufficiently resisting support for the chin. In chapters V. and VI. paralysis consequent on spinal disease are discussed, and the chief diagnostic points which distinguish them from other

forms of paraplegia are discussed. A very interesting account of a paralysis of the lower extremities, common in India, which is caused by eating bread made of the flour of *Lathyrus sativus* is given (p. 88). This condition is termed lathyrism.

One of the most interesting chapters in the book is chapter IX., which deals with sacro-iliac disease. It is not a very common ailment, and the prognosis is generally bad. Erichsen says, "I have never seen a case recover after the full development of the disease, and after suppuration has set in." The symptoms in a case of well-established disease are given in detail (p. 95), and are found amplified in the description of some cases which have been observed by the author. Pressure in the line of the sacro-iliac synchondrosis causes intense pain, so also does any attempt to divaricate the ala of the ilia. Well-marked lateral deviation of the spine is always observed. In one case a plummet line, dropped from the *vertebra prominens*, fell three inches to the right side of the fold of the nates. In early cases the best treatment is fixation of the joint by a plaster belt surrounding the pelvis. If this give relief to pain, good is likely to result, but if little relief be experienced, and especially if there be a continuance of pyrexia, fixation will avail little, and then the author strongly recommends to open the joint from behind by the trephine or gouge, taking care to penetrate the entire thickness of the interosseous ligament. He relates a very interesting case of a workman, aged thirty-two, with well-marked sacro-iliac disease, in whom this method of treatment was perfectly successful. Coccygodynia and railway spine are discussed shortly in chapters X. and XI.; indeed the latter is a subject of such extent and importance, that in a book of the kind before us, it can be touched on only in the lightest and most incidental manner, and the author does not attempt more. Lateral curvature of the spine is discussed in chapters XII. and XIII., and will be found full of valuable information, the outcome of a very extensive experience. Chapter XIV. deals with torticollis, and is restricted to seven pages. The fringe of the subject is only dealt with, but the latest views respecting it, and the most improved methods of treatment have found exposition. Chapters on "Injuries of the Vertebral Column," and on "Growths in the Vertebral Region," bring the book to a close.

We hope we have said enough to indicate the general character and scope of this book. We can strongly recommend it to senior students and practitioners as a work full of sound and practical

teaching, in which we find little of the abstruse controversies which range round pathological questions, but much which indicates that the author has condensed well the results of a long and extensive experience, and that he has the talent of putting his knowledge into a readable and instructive form for the benefit of others. The book is illustrated by numerous lithographs, which scarcely do justice to the text. We must congratulate the publishers on the admirable manner in which they have brought out the book.

A Practical Manual of Mental Medicine. By DR. E. RÉGIS. Second Edition. Authorised Translation by H. M. BANNISTER, A.M., M.D. Utica, N.Y.: Press of American Journal of Insanity.

AN original title page is as advantageous to a book as a striking presence is to a man, and Dr. Bannister's translation is fortunate at the outset in possessing this advantage. This is one of the last works published from the press of the Utica Asylum. For many years the *American Journal of Insanity* was printed and published there, as well as many other less ambitious but very useful works. Recently there has been, at the Utica Asylum, one of those crises which periodically disturb the government of all such places. The lay committee and the medical staff having differed—as we understand, originally on the subtle and difficult question of how far it was the medical superintendent's duty to keep the committee men supplied through the winter with flowers and grapes grown in the asylum greenhouses—it was decided by the more powerful party that changes must be made, and one of these has been to suppress the Utica press, to force the *American Journal of Insanity* to seek more hospitable and civilised quarters, and to deprive of a useful and remunerative employment a large number of the unfortunate patients, who as usual are the ultimate sufferers when the medical staff are attacked. But we have not space to more than glance at this somewhat vulgar and brutal exercise of authority, nor can we pretend to any of the inspiration needed for a new *Areopagitica*. Others must plead for "the liberty of unlicensed printing," which appears now to require an advocate in the sublime and enlightened Republic of the West. The circumstances attending the publication of the work before us form a fine advertisement. Says Dr. Régis in a preface which he has supplied to the translation—"It is

assuredly the first instance of a work, treating of mental alienation, written by an alienist, translated by an alienist, and, under the direction of an alienist, printed and bound by the insane." That it will be the last for some time, though an unfortunate fact, adds an interest to the book, which it deserves, but not requires, being itself an excellent production.

Dr. Régis divides his treatise into two parts, the first treating of mental pathology, the second of the practical applications of mental pathology. As introductory to the first part there is a chapter on the historical aspect of mental medicine which is scholarly though necessarily brief. The first part is further subdivided into two sections, dealing respectively with general and special pathology. Under general pathology the author discusses the essential nature of insanity, its ætiology, the symptomatic elements of mental alienation, and the classification of insanity. Under the head of general pathology he considers the various forms in which insanity occurs. Dr. Régis is not one of those who regard statistics which are supposed to prove the increase of insanity with apprehension. After showing that the increased accuracy of recent censuses must be taken into account, he goes on to say—"We find that the increase of admission, which was annually 12·5 per cent. forty years ago, is to-day only 1·7 per cent." The striking effect which an acute intercurrent affection often appears to produce in cutting short an attack of insanity is referred to. It is not noticed that in many such cases the improvement may possibly be due to the increased individual care bestowed upon the patient. Our author seems to incline to the old belief as to the circulatory conditions in mania and melancholia—"We may suppose," he says, "that maniacal conditions, or those of excitement, correspond to a hyperæmia, and melancholic or depressed states to an ischæmia of certain regions of the brain." We are of opinion that it should rather be the function of modern pathology to warn the student that such a view is merely speculative, and that the arguments hitherto adduced in its favour are crude. The theory underlying it postulates the following—(a) That mania is a condition of functional activity; (b) That melancholia is a condition of functional inactivity. These postulates are quite unproved. It might be fairly enough argued in the present state of our knowledge that the maniac who rushes about all day talking and laughing does not waste one atom more cerebral energy, whatever that may be, than the melancholic who sits wrapt in the agonised

meditation of death, turned to stone with the force of the anguish he is suffering. It is, perhaps, as true in the pathological sense as in the psychical that—

“To suffer as to do our strength is equal.”

In any case the appearances which superficially suggest increased functional activity in mania are only wanting in some forms of melancholia. In *melancholia agitata*, and in the *raptus melancholicus* there may be a degree of motor activity rarely reached in acute mania, while in that very serious condition, commonly known in England as acute delirious mania, the mental symptoms are generally more akin to melancholia than mania, and a condition of acute delirious melancholia has even been described. Now we come to the dilemma—either motor activity is a sign of hyperæmia of the brain, in which case the brain of the sufferer from *raptus melancholicus* or *melancholia agitata* is hyperæmic, which is contrary to hypothesis, or else maniacal delirium (gay and exalted delirium) is a sign of hyperæmia, in which case the brain of the sufferer from delirium acutum would be anæmic, which is contrary to fact. The truth is, our knowledge on these points is quite insufficient for any definite theory, and we should be very careful not to be led away by false analogies, not to forget on the mental side that intensity exists as well as extension, and on the physical, that an overfull cerebral artery by no means connotes an over-nourished and therefore over-active cerebral cell.

Having to differ from Dr. Régis on the point dwelt on above, we are glad to record our emphatic approval of his opinion, expressed in a later chapter, that “insanity is not merely an intellectual disorder but a disease affecting the whole being.” This is a thesis which Savage, among later Englishmen, has maintained with much ability.

With reference to auditory hallucinations, we agree with Dr. Régis’ dictum—“every subject of auditory hallucinations is essentially dangerous.” He notes that “nearly all the insane who are deaf or hard of hearing have auditory hallucinations,” and in this our experience coincides with his. He draws attention to the formation of a new vocabulary among the deluded as a sign of chronicity or incurability—a fact well brought out by the labours of the French school. Alteration of the tone and timbre of the voice is noted as occurring in cases of “intense agitation (mania, melancholia, and general paralysis),” but this mode of putting the matter is misleading, the alteration in question being often an

early and important sign of general paralysis, occurring long before the appearance of intense agitation.

In a preface supplied to the first edition by the late lamented Benjamin Ball, of Paris, who stood sponsor for the work of a former pupil, originality is claimed among other things for the author's views upon classification. His classification has certainly the charm of boldness. One experiences a slight shock when one reads a chapter on the classification of insanity in which general paralysis is not mentioned, but one finds after a while that the latter affection is very fully treated further on as one of the "secondary conditions of mental alienation (associated or symptomatic insanities)." We will not now dispute the fundamental reasons for this method of dealing with the subject. In a text book it has the disadvantage of being rather confusing for a student. However, we will for the present accept Dr. Régis' view that secondary or associated conditions are to be regarded as apart, and take up his classification of the primary states. These he divides into—

I. Functional alienations (vesanias, insanities, psychoses); and

II. Constitutional alienations (degeneracies, deviations, mental infirmities).

I. is again divided into (a) generalised or symptomatic insanities, and (b) partial or essential insanities.

Already there is confusion, for the words "symptomatic insanities," used here to describe a variety of the primary insanities, are the identical words used later on to describe the whole group of secondary conditions of mental alienation. Taking I. (a) we find it further divided into (1) mania; (2) melancholia; and (3) insanity of double form. And here we pause to pluck a crow with Dr. Régis, and not only with him but with almost every other framer of classifications whose work we know. In nine out of ten classifications, perhaps in ninety-nine out of a hundred, no mention is made among the acute primary forms of vesania of the commonest of them all—namely, that condition which Krafft-Ebing calls "*Wahnsinn*," Wille and Meynert "*Verwirrtheit*," and Korsakoff in his recent classification, following the Italian, "*dysnoia*." *Dysnoia* (for we prefer this term to the awkward phrase, "acute confusional insanity," which has been used by the English author who has claimed the largest sphere for this type) comprises the great majority of all the acute cases of insanity, whether idiopathic or symptomatic, that come under observation.

Why clinical observers and the makers of classifications are so slow to recognise this we are at a loss to imagine. When we found all mention of it omitted from M. Régis' classification of primary affections we concluded that he regarded it as a phenomenon recurring only among the secondary or associated; but we have found nothing said of it under the latter head, so we must conclude that our author does not recognise this form, and that all his primary generalised vesanic cases have to fit into the Procrustean bed of mania, melancholia, or insanity of double form.

The partial or essential insanities consist of one group only, here denominated *systematised progressive insanity*. This is identical with the *délire chronique* of Magnan, except that Dr. Régis does not recognise the consecutive dementia as a fourth stage. The three stages (disquiet and hypochondria, persecutory delusion, ambitious delusion) he denotes respectively as *the period of analytic concentration, the period of delusive explication, and the period of the transformation of personality*. Like most observers in these countries we remain sceptical as to the existence of a distinct form answering to Magnan's description. Everyone of long experience has seen a few cases approaching closely to it, and many resembling it more or less distantly, but we cannot satisfy ourselves that it deserves to be raised into a distinct type, and we cannot but say that we consider its separation from the delusional insanity of degeneration a merely fanciful one.

The descriptions given by Dr. Régis of persecutory insanity both as a phase of *délire chronique* and when it occurs among the degenerates are excellent.

In his second great group, the constitutional alienations, our author includes the (1) disharmonies (defects of equilibrium, originality, eccentricity); (2) neurasthenias (fixed ideas, impulsion, aboulias); (3) phrenasthenias (delusional, reasoning, and instinctive insanity); (4) monstrosities (imbecility, idiocy, cretinism); and (5) simple dementia.

All this sounds logical; it seems, as our friend Bottom says, to "grow to a point" very nicely, but the facts that an attack, in no way to be distinguished from acute mania, supervenes frequently upon a disharmony, and that no observers except the French followers of Magnan can be found to admit the existence of a degenerative delusional type distinct from *délire chronique*, impair its value. It is indeed one of those classifications which rather express a need than a fact. There ought to be, logically speaking—

may, one might say there must be—some distinction between accidental and constitutional cases, and this would be a most natural basis of classification. There must be a physical basis for degeneration, and in all probability the brain change is accompanied by other overt changes in general nutrition. Nevertheless, the distinction cannot, at least at present, be made, and all theoretic systems founded upon a supposed differentiation of this kind fail when brought to the test of practice. The physical stigmata of degeneration are really of the most shadowy description, and the whole mass of literature that they have evoked might be summarised in the one short sentence—"People who are ugly and slightly misshapen somewhat more often break down than the handsome and shapely." Further than this one cannot go without flying in the face of one's experience of every day.

Nearly half the work before us is taken up with the great body of conditions which our author is pleased to call "secondary conditions of mental alienation." These include insanities associated with—(1) physiological conditions, as puberty (hebephrenia), old age (senile insanity), menopause (climacteric insanity, &c.); (2) local visceral diseases (cardiac, genito-urinary, hepatic, &c.); (3) general diseases (rheumatism, gout, &c.); (4) disease of the nervous system (epilepsy, hysteria, general paralysis, &c.); and finally (5) intoxication (alcohol, opium, lead, cocaïn, &c.)

We venture to dispute the propriety of calling most of the affections thus grouped secondary. It is absurd, according to any meaning we can take out of the word, to call hebephrenia secondary to puberty, climacteric insanity secondary to the menopause, or senile insanity secondary to old age. Every male person who lives long enough passes through two of these states, and every female through three, therefore, unless all the race is insane, these insanities must depend upon something else. Physiological conditions of ordinary nutrition and development can no more be said to cause insanity than can the circumstance that we dwell upon a terraqueous globe or any other elemental factor of our being. The truth, it appears to us, lies just the other way. The organisation that cannot endure the strain of ordinary physiological change, which is one of the incidents of our existence, must be already a crazy one. Therefore these insanities are in the truest sense of the word essential, requiring for their development nothing further than the continued existence of the tainted organism. Experience supports this view; we find, for instance,

the break down at puberty or the climacteric most common among those who present a profound hereditary taint.

We have dwelt so much in detail upon Dr. Régis' classification because originality and freshness are claimed for it. It has certainly been carefully worked out, and that it is yet another failure is probably due to the inherent impossibility of framing a wholly satisfactory classification.

The description which our author gives of general paralysis is very excellent. He insists with perfect justice on the existence of dementia as the essential mental characteristic of the affection, and he favours the view, daily gaining ground, that general paralysis is really a group of diseases rather than one disease. The importance of syphilis in the ætiology is fully recognised. Indeed Dr. Régis boasts that a few years ago he was almost alone in France in his opinion on this point. Since then, however, his countryman, Fournier, has gone even further than he.

On the whole, the clinical descriptions in this book are excellent. Occasionally, of course, less emphasis is laid on some one point and more on another than we individually approve, but there is only one general fault to be found with the book, and that is that the author has possibly tried to say a little too much, and that his style suffers from too much condensation. Only a French writer could have got into this little book (it is a very small octavo of not quite 700 pages) all that it contains. We are sorry that we have not left ourselves space to discuss the excellent chapters on treatment, on examination of patients, and on the medico-legal bearings of insanity.

Altogether we can heartily recommend this work to English readers. It contains a necessarily brief but clear and comprehensive account of the views of the modern French school of alienists, too little familiar to most readers in these countries. From this point of view Dr. Régis' book is important. Not only is it an excellent student's text-book, but in its American form it does for French ideas in psychiatry what Spitzka's Manual has done for the German.

The translation is generally very good. There is a blunder here and there—as, for instance, at page 298 where “magazines” occurs for “shops.” We do not know whether the French author or his American translator is answerable for rendering Krafft-Ebing's *apathetischer Blödsinn*, “*dementia with aphasia*,” or his *primäre Verrücktheit*, “*primitive insanity*,” but of course neither is right.

However, on the whole we can congratulate Dr. Bannister on the excellence of his translation. The printing and general get-up of the book, too, are very good, and reflect the highest credit on the now defunct Utica Press.

RECENT WORKS ON URINARY ANALYSIS.

1. *Practical Urinalysis and Urinary Diagnosis: a Manual for the Use of Physicians, Surgeons, and Students.* By CHARLES W. PURDY, M.D.; Professor of Urology and Urinary Diagnosis in the Chicago Post-Graduate Medical School; Author of "Bright's Disease and Allied Affections of the Kidneys," &c. With numerous illustrations. Philadelphia: The F. A. Davis Co. London: F. J. Rebman. 1894. Pp. 357.
 2. *The Urine in Health and Disease, and Urinary Analysis, Physiologically and Pathologically considered.* By D. CAMPBELL BLACK, M.D., L.R.C.S. Edin.; Professor of Physiology in Anderson's College Medical School; Physician to the Glasgow Public Dispensary, &c. London: Baillière, Tindall, & Cox. 1895. Pp. 246.
1. We are pleased with Dr. Purdy's book. It gives, on the whole, an excellent account of the matters connected with the urine with which it is of practical importance that medical men should be acquainted. It is essentially a clinical book, and does not go deeply into the chemistry of the urine. It is clearly written, and the English, though not everywhere perfect, is better than that which we are accustomed to find in many works published in America. There are numerous illustrations, mostly good and instructive, and a few coloured plates. The publishers have done their work admirably.
- The book is divided into two parts, the first of which treats of the composition of urine in health and in disease, and of the modes of examining it—chemical, microscopical, &c. The significance of the presence or absence, excess or deficiency, of the various bodies met with is explained clearly. Dr. Purdy does not believe in the so-called "functional albuminuria;" all albuminuria he looks on as evidence of an existing abnormal state. He appears, however, to go rather farther than most observers when he says, "I have never met with a case of albuminuria, including the so-called functional albuminuria, in which the patient did not

present more or less evidence of departure from the normal balance of perfect health, either local or general."

Of the various tests for albumen, the author prefers the use of acetic acid and potassium ferrocyanide for routine use, because it requires the fewest precautions, and is very delicate. Dr. Purdy mentions what is omitted in so many works on the urine—viz., that in concentrated urines nitric acid in the cold is apt to precipitate the amorphous urates in the form of a light brownish cloud, which may be mistaken for albumen. We have noted that in this part of the work the chemical nomenclature is peculiar. Thus we read of both liquor ammonium and liquor ammonia. We also find $(\text{NH}_4)_2 \text{CO}_3$, instead of $(\text{NH}_4)_2 \text{CO}_3$.

Urinary sediments are fully described and well illustrated. The author has devised a very convenient form of electric centrifuge, with conical-shaped test-tubes, whereby even scanty sediments are easily obtained in a few minutes. In the section on tubercasts, we read that fatty casts are evidence of extreme chronicity of the kidney disease. This, we venture to think, is not quite correct; casts containing droplets of fat are not unfrequently found in the urine of persons who are convalescing from acute Bright's disease.

Part II. treats of Urinary Diagnosis—that is to say, diseases of the urinary organs and passages are considered mainly from the stand-point of the examination of the urine, and Dr. Purdy indicates how much and what information may be derived therefrom in each case. His views are reasonable and sound, and he does not fall into the pit that so many specialists have dugged for themselves—viz., of believing that from their special department light may be thrown upon any or every ill that flesh is heir to.

In an Appendix the question of the urine in relation to life insurance is well discussed.

The worst feature about this book is its title. "Uranalysis" is a barbarous word. Our objection to it is strengthened by the fact that it is quite unnecessary—"Urinary Analysis and Diagnosis" would be, in our opinion, a better title. Allowance, however, must be made for a Professor of "Urology."

2. We regret to have to say we have not formed a very high opinion of Dr. Campbell Black's work. Of course it contains a great deal of information, and anyone who studies and masters its contents will acquire an extensive knowledge of urinary

matters; but taking the book as a whole, it appears to us to be a somewhat ill-digested compilation of a multitude of facts. It opens with a description of the anatomy and physiology of the kidney. The letterpress is not very clear, and the figures—with which, by the way, the description in the text by no means agrees—probably represent very well the state of our knowledge of the structure of the kidney some quarter of a century or so ago. In the descriptions of the normal and abnormal urinary constituents, what strikes us most forcibly is the great number of tests and modes of quantitative analysis given in many cases. Instead of contenting himself with a few tried and approved methods, Dr. Black overwhelms us with numbers of tests—good, bad, and indifferent. Some mistakes, too, occur. In the description of the picric acid and potash test for sugar, no mention whatever is made of the necessity of boiling the mixture. We certainly cannot agree with the statement (p. 199) that “the presence of tube-casts indicates inflammation more or less acute;” nor do we believe in the truth of the view, quoted apparently with approval by Dr. Black, that the “so-called bacillus of tuberculosis is found in the urine of persons suffering from phthisis.” Nor do we believe that “it thus constitutes a valuable differentiating feature between typhoid fever and miliary tuberculosis of the genito-urinary system.” The following statement seems probably true—“the *micrococcus* and *bacillus urinæ*, which are the cause of the decomposition of urea, may also be found in the urine.” If not in the urine, where would they decompose urea?

We would also point out to Dr. Black that his “double phosphate of soda and ammonia, NaNH_4PO_4 ,” (p. 201), could not possibly exist in urine or anywhere else; that “ $1\frac{1}{2}$ grains to the ounce is not equal to 3 per cent.” (p. 161); and that 1 grain is not equivalent to 0.6480 gramme. (Appendix.)

The Dyspepsia of Phthisis: its Varieties and Treatment, including a Description of certain forms of Dyspepsia associated with the Strumous Diathesis. By W. SOLTAU FENWICK, M.D., B.S. Lond., M.R.C.P.; Assistant-Physician to the Evelina Hospital for Sick Children, &c. London: H. K. Lewis. 1894. Pp. 203.

THE subject of the disorders of the digestive system as occurring in the phthisical and in those who are phthisically disposed is one which certainly demands our most careful attention, as these

disorders are among the greatest obstacles to treatment met with in those threatened by or affected with pulmonary tuberculosis. Dr. Fenwick has evidently studied these disorders carefully; he has consulted most of the available literature of the subject, and, in addition, has had the opportunity of gaining extensive experience in the Brompton Hospital for Consumption. The statistical records of this hospital have been worked up with care; information derived from 2,000 necropsies in this institution is frequently utilised.

After a chapter on certain diseases of the stomach, such as cancer, whose occasional occurrence in consumptive patients is merely an accidental coincidence, the author describes the morbid changes met with in the gastro-enteritis of phthisis, and shows how common it is to find the mucous membrane of the alimentary tract the seat of a chronic form of inflammation, in which the adenoid and the connective tissues become increased in amount, and the epithelial cells suffer more or less degeneration. These changes are most commonly found in cases of chronic phthisis, and Dr. Fenwick believes them due to the absorption of certain toxic substances which are manufactured in the pulmonary cavities. He then describes a variety of dyspepsia met with in strumous children, of which sudden attacks of violent pain are the most prominent symptom. Constipation generally co-exists, and the author finds the most successful treatment consists in improving as far as possible the health, and using aperients (cascara or aloin) regularly.

Then Dr. Fenwick describes—(1) a variety of dyspepsia which is apt to precede phthisis, and of which one of the most marked features is the dislike of fat; (2) the varieties met with in early cases; and (3) those which occur towards the close of the case. The last chapter discusses fully the frequency of perforation due to tuberculous lesions of the intestinal tract, its usual seats, and its symptoms. We do not know elsewhere any so complete description of this lesion, which terminates a considerable number of cases of consumption; it was found 23 times in the 2,000 necropsies at the Brompton Hospital to which the author refers.

While there is a good deal of valuable information in this work, we think that a certain amount of compression might have been judiciously exercised; a little more conciseness would have made the descriptions of symptoms more striking; and in the remarks on treatment there is a good deal of repetition and not much that is new. However, taking the book as a whole, it represents a

large amount of investigation, and we welcome it as a useful contribution to an important subject.

On the Principles and the Exact Conditions to be observed in the Artificial Feeding of Infants ; the Properties of Artificial Foods, and the Diseases which arise from Faults of Diet in Early Life.
By W. B. CHEADLE, M.D. Cantab., F.R.C.P.; Physician to St. Mary's Hospital; Consulting Physician to the Hospital for Sick Children. Third Edition, revised and enlarged. London: Smith, Elder & Co. 1894. Pp. 248.

THE aim and scope of this book are exactly explained by the title, and we have much pleasure in expressing our opinion that Dr. Cheadle has succeeded admirably in his task, and has produced a book full of sound and judicious information upon a most important and often ill-understood subject. That it has been tried and found of value is shown by the fact of two editions being now out of print; we feel confident that this third will be succeeded by yet other editions.

It opens, as all works on the subject should, with a careful investigation of the natural food of children. Very careful analyses of a number of specimens of human milk were made for Dr. Cheadle by Dr. Luff, and with the data thus obtained the properties and qualities of other kinds of infant's food are compared. Each—cows' milk, asses' milk, artificially prepared foods, &c.—is carefully considered; its advantages and defects are pointed out, and we are clearly shown how nearly or otherwise it approaches to the six essential conditions laid down by Dr. Cheadle, viz:—

(1.) The food must contain the different alimentary elements in the same proportions which obtain in human milk.

(2.) It must possess the anti-scorbutic element.

(3.) The total quantity in twenty-four hours must be such as to represent the nutritive value of one to three pints of human milk according to age.

(4.) It must not be purely vegetable, but must contain a large proportion of animal food.

(5.) It must be in a form suited to the physiological condition of the digestive function in infancy.

(6.) It must be fresh and sound, free from all taint of sourness and decomposition.

The book is increased in value by the introduction of a number of illustrative cases, which show the evil results arising from improper kinds of food and the appropriate measures for their cure.

We could have wished that in treating of the various modes of artificial feeding Dr. Cheadle had mentioned by name some of the more widely known proprietary foods (to which he refers in a general way), and had expressed his opinion as to their relative value; as these foods are very extensively used, we think an expert opinion on the subject would have been of considerable value. Perhaps the author may see his way to do this in his next edition.

In the second half of the work the author discusses the diseases which arise from improper or insufficient nourishment, especially rickets and scurvy. Of the causation of the former disease he says—"The only constant factor always present is the food factor; the vast majority of cases of rickets arise directly in connection with food." Want of animal fat and of proteids are the chief and may be the only factors that produce the disease; possibly deficiency of earthy phosphates may be a factor of some influence in certain cases. He shows how rickets can be cured by a suitable diet.

We have studied Dr. Cheadle's work with pleasure and profit, and warmly recommend it.

Pulse-Gauging: a Clinical Study of Radial Measurement and Pulse-Pressure. By GEORGE OLIVER, M.D. Lond., F.R.C.P.; Author of "Bed-side Urine Testing," "The Harrogate Water," &c. London: H. K. Lewis. 1895. Pp. 174.

FOR many years Dr. Oliver patiently used the sphygmograph until at length he satisfied himself that its clinical value was not very great. Being, however, of the opinion that some instrumental mode of examination of the pulse might be devised, which would give more definite information than the finger, he has constructed the arteriometer and the pulse-pressure gauge.

The first part of the book deals with the arteriometer, whereby the calibre of the radial or other artery is determined. For all mechanical details we must refer our readers to Dr. Oliver's little book. By means of this instrument he finds that in health the calibre of the arteries is always varying within certain limits.

The calibre is altered by exercise, changes of posture and temperature, the stages of digestion, and some other factors. In various forms of disease these normal changes of calibre are absent or altered. For example, in chronic interstitial nephritis, myxœdema, syphilis, gout, arterio-sclerosis, the postural variation is lost. Abdominal irritation—*e.g.*, an operation for strangulated hernia—causes contraction of peripheral arteries. Dr. Oliver has found the instrument of use in the diagnosis of several diseases, especially those mentioned as showing absence of the postural variation; in fact this observation in some cases led him to the diagnosis of syphilis, and to the discovery that a now almost forgotten chancre existed thirty years before. In the question of treatment, he also has derived information from the instrument—thus, when the maximum calibre is persistent in the recumbent position, tonics and rest are indicated; when the normal postural variations are abolished, iron and strychnine are not well borne.

Part II. treats of pulse-pressure. By means of an ingenious gauge the arterial pressure is ascertained both at its highest and lowest points—*i.e.*, the pressure of the pulse-wave and the pressure in the interval between two waves. Many gauges have been devised which give the former measurement. Dr. Oliver says his is the only one which will give both figures. He shows how by means of this instrument not only abnormally high and low pressure pulses may be discovered with certainty, but also how the pressure of to-day may be accurately compared with that of, say, a year ago; it also throws a good deal of exact light on the effects of treatment.

We cannot as yet express any opinion as to the probable value of these instruments, especially of the arteriometer. We must, however, say that Dr. Oliver's methods of examining the arterial system deserve to be carefully investigated, and that to him much praise is due for the care and ingenuity he has displayed in his work.

Helps in Sickness and to Health: Where to Go, and What to Do. By HENRY C. BURDETT. London: The Scientific Press (Limited). 1894. Pp. 484.

It is hard in a short space to give an idea of the comprehensive scheme of this book, as it deals with almost everything which comes under "Sanitary Science." Yet the writing is so clear,

and tempting excursions into technicalities are so successfully avoided, that the effect is not confusing, and much information can be easily and pleasantly gained from its pages.

Part I. deals with the Nursery, Schoolroom, Person and Habitation. The colouring of the nursery is fully dealt with, the author rightly condemning white ceilings, advocating French grey or blue-green instead, but saying nothing in favour of pink or yellow, which are so grateful to many eyes. His ideas as to the beauty of paper centres for ceilings also show that in matters of decoration he is somewhat easily pleased. The feeding of infants is well and clearly treated, sample diets for different ages being given. The only fault is that the meals recommended are rather too few. Many children will require to be fed oftener than five times in twenty-four hours. Indeed some healthy children thrive on many more meals than Mr. Burdett allows.

In some points the information seems rather behindhand. Surely the following paragraph does not describe a state of things existing to any extent, if at all, at the present day :—

“The horrible way in which mothers are often made to spend their lives for the first month after their confinement is disgusting and repulsive. A change for the better has certainly been made in their diet, but it is still believed by many that foul air is poisonous to lying-in women, and with the baby they are made to pass the days in a room hermetically sealed against the entrance of fresh air, a roaring fire amplifying their torture. In this unwholesome atmosphere the poor infant spends the first months of its life.”

Under the heading of “School,” the author deals fully with eyesight; but, curiously enough, does not say anything about what is really such a pressing requirement—the periodical examination of teeth. The faults of boots are pointed out, but the remedy should be more clearly pointed out—to keep the inner edge of the boot straight, so that the great toe shall be in direct line with the inner edge of the foot.

The statement that garters are now uncommon seems to be of the nature of “looking forwards.”

The chapter on Food and Drink is too condensed to be of much use, and the paragraphs on alcohol are chiefly taken from Dr. Parkes’ “Manual of Hygiene,” later investigators being ignored. Curiously enough, Dr. Parkes’ papers in the Proceedings of the Royal Society seem to have escaped the author, and the effect

of alcohol on the heart is not mentioned, although the old-time "physiological dose" of $1\frac{1}{2}$ oz. of absolute alcohol is resurrected.

Dr. Wilks' axiom, that "change of work is true recreation," is approved, and the cultivation of a "hobby" advised; but photography does not occur in the list of hobbies recommended.

The chapters on the choice and structure of the house present no novelties, and have the usual illustrations first introduced by Dr. Pridgin Teale. But why on page 149 does the author, in trying to illustrate "party walls above the roof," omit the party wall the rest of the way down?

A chapter on "Sanitary Powers and Duties of the Citizen" is well written and will be found useful.

Part II. deals with "Helps in Sickness and to Health," and contains the kind of information so widely distributed of late years in ambulance handbooks. It would be useful to group the poisons, in addition to dealing with them and their antidotes separately. In case of poisoning there is little time to consult books, and general rules are most likely to be remembered.

Part III. has 120 pages, and gives a list of all institutions in England and Wales founded for the relief of sickness or bodily infirmity. The various institutions are arranged in classes, and the terms of entrance, hours of attendance, and so-forth, are given. This part will be found very helpful.

Asthma and Chronic Bronchitis. By JOHN C. THOROWGOOD, M.D., F.R.C.P.; Senior Physician to the City of London Hospital for Diseases of the Chest; Consulting Physician to the West London Hospital, &c. A New Edition of "Notes on Asthma and Bronchial Asthma." London: Baillière, Tindall & Cox. 1894. Pp. 136.

DR. THOROWGOOD has evidently had an extensive experience of the symptoms and management of asthma; consequently there is a great deal of valuable information on the subject to be found in the work before us. However, want of order and arrangement is prominent everywhere, and greatly detracts from the value of the book. Neither in describing symptoms, pathology, or treatment do we find that regular and methodical sequence of ideas which so greatly assists the reader in following the meaning and apprehending the views of the writer.

Apart from this defect, the book is useful; many illustrative cases are described at length; and many hints are given as to the treatment of that most troublesome complaint, asthma.

The Dental Cosmos, a Monthly Record of Dental Science. Published by the S. S. White Dental Manufacturing Co., Philadelphia. Vol. XXXVII. No. 1. January, 1895.

AMONG many articles of interest—more especially to the dental practitioner—we notice one from the pen of Sidney S. Stowell, D.D.S., headed “Local Exercise and Dietetic Influence upon the Teeth,” wherein the author urges very forcibly that much of the degeneration of our dental apparatus, about which one hears so often to-day, is due to the great preparation which our food now undergoes previous to being served at table, thereby lessening the work which the teeth were destined to perform, and instances the finely-ground flour used in bread now-a-days as compared with the good old whole meal, now seldom seen, which use to give these organs more ample scope for masticating operations.

A paper upon “Facial Neuralgia,” by M. H. Cryer, M.D., D.D.S. Philadelphia, would also well repay perusal. We also notice an excellent photogravure of a tablet erected lately in Hartford, Conn., to Horace Wells, the discoverer of anæsthesia.

An exhaustive discourse upon the “Relative Penetrating Powers of Coagulants,” in connection with the treatment of root-canals in teeth, together with very many other articles of interest, go to make up a journal which, enhanced by excellent paper and printing, reflects credit upon the publishers.

Quain's Elements of Anatomy. Tenth Edition. Vol. III., Part III. Organs of the Senses. By PROFESSOR SCHAEFER. Pp. 165. London: Longmans, Green, & Co.

THIS is the sixth part of our standard English anatomical text-book which has reached us since the tenth edition began to appear. Two parts more—one on the viscera, the other on the peripheral nerves—will, we understand, complete the work. We have already noticed five parts, which treated respectively of embryology, general histology, osteology, myology, angiology, &c., and the central nervous system, while the part before us is devoted to the

organs of the senses, and comes from the pen of Professor Schaefer.

On taking a general look through, the first impression is that much new matter and many new illustrations have been added. This ought to commend the book to us; but, unfortunately, the feeling of satisfaction is very much lessened in our mind by the way in which many of the new pictures are reproduced. In Quain we have always had clear, well-cut, distinct and striking, although small, woodcuts, the contrasts well marked, and the details brought out without hesitation or uncertainty. Such are most of the illustrations of the five parts of the present edition which we have already noticed—indeed we are of opinion that the illustrations of the part devoted to osteology surpass those of any other anatomical text-book we have ever seen. But, in the part before us most of the new pictures are produced by a process which is unsatisfactory in the majority of cases, particularly where detail is required. All we used to value in the old illustrations—their brightness, their clearness, and their precision—is absent. True, the new pictures are large, much larger than the average of those of former editions, and this is a great advantage. Still, we would be glad to sacrifice something in the matter of size if we got in return better definition.

On going carefully through the book, our first impression is confirmed. A great deal of good and important new matter has been introduced into the present edition, as might, indeed, be expected, seeing that the methods of Golgi, which have revolutionised so many of our anatomical ideas, have come fully into operation, and that the excellent work of Retzius, particularly in the region of the internal ear has appeared, since the last edition was issued.

The first seventy pages are devoted to the eye. The description of the *tutamina oculi* is improved, and several points made clearer than in former editions. However, we are not at all satisfied with the account of the capsule of Tenon: the place of the new illustrations of this structure might be better occupied by descriptive matter. We think that some confusion will arise from the indiscriminate use of the terms "lachrymal sac" and "nasal sac," as applied to the same structure. In the description of the ball of the eye there is nothing very special until we come to the retina. We would just remark on the way that the descriptions of the ciliary vessels, of the choroid, and of the iris, might be

improved in certain directions. For instance, the important surgical connections of the ciliary vessels are not made clear; and again, there is no statement as to the position of the muscular fibres in the iris; but for the illustrations we should not discover that they lie in the posterior part of that structure.

The retina is well and clearly described—in fact, it is one of the best bits of work in the book, containing, as it does, the results of the application of Golgi's methods to this part, which have thrown much light upon its anatomy. The account of the eye is completed by a very full list of the literature of the subject running into four pages.

The eye is followed by the ear, to which fifty-nine pages are devoted. The external ear is treated much as in the last edition. Notwithstanding the new pictures, the description of the fissures in the cartilage of the pinna is still obscure, and that of the intrinsic muscles conventional—for instance, the antitragus still finds its insertion into the tail of the helix. The account of the external auditory meatus is good, and much of it is new.

The middle ear in general is well described, and many important points, not noticed in previous editions, have been introduced. While we agree with and commend the general description, there are some things in it to which we take exception. In the first page devoted to the tympanum, there is a picture taken from Testut, a section of the temporal bone, to show the tympanic cavity; the illustration—which is supposed to be from nature, and is marked *natural size*—shows a tympanum which measures from roof to floor 23 or 24 mm., almost an inch, while in the text this dimension is given—and correctly—as being 15 mm. The mistake is Testut's—the picture should certainly not be marked “natural size.” This figure is repeated on page 99. Again, on page 89, the length of the malleus is given as from 18 to 19 mm. The real length of the malleus is little over 8 mm., occasionally reaching to 9 mm. This, we need hardly say, is a serious mistake, which we can attribute only to haste or want of care. On the next page the handle of the malleus is described as “passing downwards with an inclination *forwards* and inwards,” while figs. 91 and 92 show it passing not forwards but *backwards* and inwards. In former editions the orientation of fig. 91 was different, and agreed with the description, forwards and inwards. The fact is that the handle of the malleus has really a slight inclination backwards, and the position represented in the two figures is about

correct. On page 94 no origin whatsoever is given for the stapedius muscle. Regarding the action of the tensor tympani on the malleus, we are told that the muscle draws the whole bone and the membrane inwards, and that it exerts but little rotating power upon the malleus. This is questionable. We are strongly of opinion that the muscle does produce a distinct rotation of the malleus round an oblique axis, passing through its neck, and that the contraction of the tensor draws the handle of the malleus and the membrane in, while the head goes outwards.

For the description of the internal ear we have little but praise. The part is excellently described, a great deal of new matter is added, and Retzius' work is fully recorded. Even in this part, however, we have come across some slips and misprints. On page 105, line 16 from top, we find the sinus superior (utriculi) described as being formed by the conjoined limbs of the superior and *external* semicircular canals, instead of the superior and *posterior*; on page 116, last line, *breadth* has crept in instead of *length*, which is very misleading; and on page 123 *omic* is printed instead of *osmic*. With the exception of these minor points, and one other, to which we shall refer directly, we think the description of the internal ear remarkably good, clear, full and intelligible. Unfortunately this section concludes with a table of measurements, in which the sizes of twenty-nine different parts of the cochlea are given, and in every case the measurement is a thousand times too small. The table is headed by a statement that "the following numbers show the dimensions in *micro-millimeters*," whereas they really show them in *millimeters*. In other words, the word "micro-millimeters" has found its way into the heading instead of "millimeters," and remained there. This is a most serious error, and one which, of course, has already attained a wide circulation. Would it not be well to have a slip, with the correction, inserted opposite the page bearing the numbers in any further copies issued by the publishers?

An account of the literature of the ear follows; it is succeeded by seventeen pages devoted to the nose and nasal fossæ, and four pages to the tongue, all of which is satisfactory in every way. The book is completed by a short chapter on a "Comparison of the Modes of Arrangement of Sensory Cells and Nerve Fibres in the different Organs of Special Sense."

As regards the illustrations, of course a great number are old and tried friends from the ninth edition, but there are many new

ones taken largely from Testut, Merkel, Retzius, and other sources, as well as several original pictures by the author. We have already expressed our opinion of the process by which most of the new figures have been reproduced; we think it responsible for spoiling many illustrations that would otherwise have been pleasing and useful. We do not wish to be censorious, but what could be more distasteful to anyone with the slightest artistic taste than figures 12, 13, and 14? The same remarks will apply to figs. 22, 36, 93A, 93B, 96, 154, 155. They are not only artistically, but also, owing to their indistinctness and want of contrast, anatomically unsatisfactory. What a contrast between them and some of the old figures—for instance, fig. 167! On the other hand, we can commend some of the new illustrations, amongst them those from Cajal on the eye, Retzius on the ear, and those from Arnold on the nose. We must add, however, that our commendation would be much warmer were the pictures well reproduced.

We have written our opinion freely about the book before us. We recognise in "Quain" our great national anatomy. Its reputation is a matter of interest to all of us, and we are proud of its eminence. We were able to commend in the warmest terms all the volumes that appeared up to this; but, while we see a great deal to praise in the part before us, particularly in the portions of it which are more purely histological, and which, we think, are treated in a masterly style, there are still in it some inaccuracies of such a kind as should not be found in a work of its position and importance. We admit that the points to which we have called attention are merely slips or oversights, the result of haste or insufficient care, but oversights so marked should not be allowed to appear in such a work—haste or want of care should have no hand in building up a volume of "Quain."

On Chorea and Choreiform Affections. By WILLIAM OSLER, M.D., F.R.C.P.; Professor of Medicine, Johns Hopkins University. Baltimore. Pp. 125. Large 8vo. 1894.

THE thoroughness which characterises Professor Osler's work is not wanting from this, his latest publication. It contains a full exposition of the natural history, causation, pathology and treatment of chorea, so far as these are at all defined; and, not the less valuable part of the book, it goes over the same ground in regard to a number of other diseases of choreiform character. He

points out that the genuine St. Vitus's dance was a sort of epidemic convulsive disorder which manifested itself in some excitable communities in the middle ages, and even so late as the early part of this century in Kentucky and Tennessee during periods of intense religious enthusiasm. Perhaps the feverish revolutions of the dancing dervishes are a still surviving exemplification of the same condition.

The discussion of chorea proper is largely based on Dr. Osler's own experience, and on the records of cases treated in the Philadelphia Infirmary for Diseases of the Nervous System, but almost all authorities of value are quoted in addition. Needless to say most of the facts of the disease have been told before, in one form or another—we do not know of any work in which so many can be found together—and it is a comfort, in this sceptical age, to find most of our notions about chorea corroborated. Its rheumatic connections, its association with heart disease, its tendency to recovery and to recurrence, its incidence in pregnancy, and many other points remain unshattered by statistics or by theory. On the other hand, there is some valuable formulation of facts. Thus, chorea may be simple, severe, or maniacal. In this last condition the bodily trouble may be overlooked, and the patient committed to an asylum. "There is no known disease in which endocarditis is so constantly found, *post mortem*, as chorea." This disease is almost always of the mitral valves; it is not a fact that endocarditis in chorea is, *per se*, less injurious than it is in other conditions. In 19 out of 73 recent autopsies collected by Professor Osler pericarditis was present, and in 17 of these it was associated with endocarditis.


On the pathology of chorea, happily, one may say, Prof. Osler is brief—the more indefinite a subject the more temptation to be lengthy. From the reports of cases we gather that there is, perhaps, most to be said in favour of a meningo-vascular causation for the disease. Pïanese "claims to have isolated a bacillus from the nervous system of a choreic patient, which he was able to cultivate successfully. Animals inoculated died with muscular twitching and convulsions, and from these animals the same bacillus could be obtained in pure cultures from the central nervous system." If this be so we should be thankful that so many unsatisfactory theories could be laid to rest for ever.

Under the head of treatment the propriety of guarding against brain- and eye-strain at school, against rheumatism and against all

conditions which interfere with nutrition, is insisted on. For the attack itself the more important measures advised are rest and seclusion, nutritious diet, arsenic given carefully in full doses; in chorea insaniens the wet pack or bath, chloroform, chloral, or bromides, the prevention of bed-sores, and efficient feeding.

After a chapter on simple and complex convulsive tics, illustrated by cases, comes a full and valuable account of Huntington's chorea. "There are three marked tendencies in this disease," wrote Huntington in 1872, and his description has not been improved upon since, "1. Its hereditary nature; 2. A tendency to insanity and suicide; 3. Its manifesting itself as a grave disease only in adult life." Full accounts, graphic in detail, are given of several cases of this uncommon and most interesting disease. An appendix contains an analysis of seventy-three fatal cases of ordinary chorea.

This book can be recommended as fulfilling most thoroughly the promise of its title.



A Text-Book of the Diseases of the Ear. By DR. JOSEF GRUBER, Professor of Otology in the University of Vienna. Translated from the Second German Edition, and edited with additions by EDWARD LAW, M.D., C.M. Edin., M.R.C.S. Eng., and COLEMAN JEWELL, M.B. Lond., M.R.C.S. Eng. With 165 Illustrations and 70 Coloured Figures on two Lithographic Plates. London: H. K. Lewis. 1893. Roy. 8vo. Pp. 648.

THIS being the second edition issued within a very few years proves that the book has been well and widely received by the profession; it also renders it unnecessary for us to enter much into details regarding its merits.

The justification for the appearance of an English edition of this text-book will (says the translator, in the preface to the first edition) be at once admitted, both on the ground of the position of the author in regard to the specialty, and also from the universal recognition of the value of his treatise by those acquainted with the original.

Reference must be made to the exceptional excellence of the illustrations, and more especially to the coloured figures in the plates, which form, indeed, an almost complete atlas of the appearances exhibited by the tympanic membrane in different pathological conditions.

In the present edition the translators have added much new matter and many references and annotations. These have been inserted with the author's sanction, and bring the book well up to date.

A great deal of attention, and more than 100 pages, are devoted to the anatomy of the temporal bone and the organs of hearing. This is most carefully done, and will be found of the greatest value to all who seek to obtain specially accurate knowledge of those parts.

The translators have done their part to perfection, and deserve the highest praise; and the printers and publishers leave little to be desired.

Diseases of the Ear. By A. MARMADUKE SHEILD, M.B. Cantab., F.R.C.S. Eng. With 4 Coloured Plates and 34 Woodcut Illustrations. London: Cassell & Company, Limited. 1895. 8vo. Pp. 266.

THIS little book, says the author, is an attempt to place before students and practitioners, in a condensed and easily-readable manner, those varieties of aural disease which admit of rational treatment, in accordance with the established principles of general surgery. No attempt is made to rival in size and scope the exhaustive treatises on the subject which have lately appeared.

A desire to economise space explains the absence of extensive references, and may serve as an apology for the brevity of the first chapter on the anatomy and physiology of the organ of hearing. The bulk of the work is drawn from an experience of seven years in the Aural Department of Charing Cross Hospital, which fact may explain some diversities from generally-received ideas. Stress is laid on such subjects as mastoid disease, sinus pyæmia, and adenoid growths.

The book is not a very important addition to aural surgery, but will serve, perhaps, to help students to master some of the preliminaries.

We cannot agree with the author (p. 42) that the use of the Eustachian catheter is "*inadmissible*" in children; but we can easily see how he arrived at so erroneous a conclusion, for a few lines further down the page he directs the catheter to be passed with a "*rapid*" movement. In our experience the very

reverse of this—viz., a very slow movement of the catheter is indicated in all cases, but most especially in children. The same remarks apply to the “three movements” which (on the next page), he says, “should *not* be separated by any interval of time, but be continuously executed.”

Plates II. and III. are a very useful addition to the book, but their use is seriously militated against by inaccuracy of description. It is a pity that there is no indication given as to whether the picture represents a right or a left drum, more especially as it is hard to reconcile the drawing, Plate II. F, with the description given, which states it to represent a “small circular perforation situated *anteriorly*,” whereas to any unprejudiced observer it would appear to be situated posterior to the tip of malleus. The colouring is rather vivid, and the extreme prominence of the short process of the malleus is not in accordance with our experience.

With these few exceptions the book is accurate yet terse in its descriptions, and we feel sure it will obtain a ready sale amongst students of otology.

A Treatise on the Diseases of the Ear, including the Anatomy and Physiology of the Organ, together with the Treatment of the Affections of the Nose and Pharynx which conduce to Aural Disease. By T. MARK HOWELL, F.R.C.S. Edin., M.R.C.S. Eng. London: J. & A. Churchill. 1894. 4to. Pp. 720.

THE author states that the aim which he has steadily kept before him throughout the book, when dealing with the causes, symptoms, and treatment of disease of the ear, and treatment of the affections of the nose and pharynx which conduce to aural disease, has been, before all things, to be of service to the members of the profession who feel themselves drawn to give special attention to a department, the importance of which, we regret to say, is still only partially recognised.

The book, which is well printed and nicely got up, has 122 illustrations.

Chapter XXI., on “Diseases of the Nose, Pharynx, and Nasopharynx, connected with Diseases of the Middle Ear,” is very full and satisfactory, and gives a good epitome of the surgical requirements, &c., of the naso-pharyngeal space.

The book—written, as it is, by one whose opinion on aural

matters stands so high—must command considerable attention. It is written in a thoroughly practical style, and the arrangement is that considered best suited to the practical treatment of his subject. He differs in many points from the current writers, but in all such cases he states his reasons.

We congratulate Dr. Howell on having produced so readable, accurate, and comprehensive a work on ear diseases.

A Short Sketch of the New York Medical College, with its Charter, and a Complete List of its Officers and Graduates. By EDWIN HAMILTON DAVIS, A.M., M.D. New York. 1883.

WE are indebted to the courtesy of Miss Zaidee S. Davies, of New York, for a copy of this Obituary Notice of an institution which did good work in its day—a day of only fourteen years, 1850 to 1864. The necessity for publishing a list of its graduates arose from the illegitimate sale by a dismissed official of some thirty blank diplomas, which had been more or less damaged by rain during a violent storm which blew in a skylight in 1858. The New York Medical College opened in October, 1850, the third medical school established in the city. It strove hard to improve medical education; it lengthened the term and introduced summer courses; it was the first to adopt the recommendations of the American Medical Association, and the first to establish a chemical laboratory for the practical instruction of students. There was no graduation-fee; it died of starvation. Students preferred institutions from which degrees could be obtained on easier educational terms. "When it ceased to exist a majority of the Faculty were called to honored positions in other schools, and her alumni may be found both in the army and navy, as well as occupying chairs in some of the most distinguished schools in the country."

TREATMENT OF THE INSANE.

WE desire to draw the attention of the profession to a paper in the *Montreal Medical Journal* for December, 1893, entitled "The General Practitioner and the Insane." The author is Dr. J. V. Anglin, Asst. Sup. Protestant Hospital for Insane, Montreal. He disclaims originality; but the article is thoroughly practical, and will remind general practitioners of many matters, small but not unimportant, which are apt to be forgotten in the comparatively rare cases in which they have to deal with insane patients.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

The Indian Medical Congress. By W. J. BUCHANAN, B.A., M.B., &c., Univ. Dubl.; Surgeon-Captain, Indian Medical Service; Surgeon, Presidency Hospital, Calcutta; late Travelling Prizeman, Univ. of Dublin.

THE first Indian Medical Congress has come and gone. Calcutta was the scene in the last week of December, 1894 (from the 24th to the 29th inclusive), of a great gathering of medical men, European and native, from all parts of India. The members numbered over 800. The attendance would even have been greater had the Government given more facilities for leave—the twelve days granted sufficed for members who live within a few hundred miles of Calcutta, but was not enough for many others in up-country parts of Bombay, the Punjâb, Madras, and Burma. The whole affair went off without a hitch. We will not say that any new truths were announced, or any old controversies settled, but something has been done to mitigate that feeling of isolation which is the bane of professional life in India. The Indian Medical Service naturally took the chief part in the proceedings; the Medical Staff, too, were well represented in the department of Military Medicine and Surgery; the few unofficial European medical men in India were present in considerable proportion, as was also the large and increasing body of native practitioners. The Congress was presided over by Surgeon-Colonel R. Harvey, M.D., D.S.O., and a worthy president he made.

The work was divided into seven sections, each with a president—*e.g.*, Dr. Crombie, of Calcutta; Dr. Lawrie, of Hyderabad; Dr. King, of Madras; Dr. Watt, of Calcutta; and the Hon. W. R. Kynsey, from Ceylon. The Government of Ceylon was very generous, sending five medical men and paying their expenses. Then we had Professor Reid, from Aberdeen; Dr. Bickle, from Australia; Mons. Gallay representing the French settlements in India, and Mr. Ernest Hart. The Irish Universities were not directly represented. The visit of the

last-named gentleman created considerable stir in more ways than one. He did not hesitate to freely denounce the dilatory ways and backwardness of the Government in sanitary matters, and in a manner which no official member could venture to do. His speech had some dramatic effects—as, for instance, when he pulverised Lord Elgin's extraordinary statement in his opening Address that the best test of sanitary enthusiasm and belief was unlimited patience—the old doctrine of *festina lente*. Mr. Hart showed truly enough that in the way of scientific equipment and laboratories India was much behind the world. This has been preached by medical men in India for years, but the Government has turned a deaf ear and pleaded impecuniosity. He urged the Government to set apart a certain number of their officers in each province for purely laboratory work and scientific research. He said truly that civil surgeons, as the men of the Indian Medical Service in civil employ are styled, could not be expected to do much in that line without any equipment, and subject to frequent transfers. These men, he went on to say, in addition to being the civil surgeons of a large district containing from one to three million inhabitants, were also superintendents of vaccination, governors as well as medical officers of jails, superintendents of lunatic asylums, meteorological observers and reporters. Besides the charge of large hospitals with from two hundred to a thousand major operations in the year, the same man was general practitioner and consultant of his district, had yearly to send in and write long reports on fifteen or more dispensaries on vaccination, on the sanitation of all municipalities, on jail manufactures and the health of the prisoners, not to speak of having to do, and give evidence upon, from 100 to 300 *post-mortem* examinations annually. "In any civilised country," said Mr. Hart, "this would be the work of twenty men." So much all agreed to, but his further remarks have excited a good deal of feeling. He says he came out as the apostle of pure water. "You can drink cholera, you can eat cholera, but you cannot catch cholera." But this was and is the gospel of Macnamara. Mr. Hart is apparently under the impression that medical men in India believe in the obsolete theories of Surgeon-General Cunningham. It may safely be said that not five per cent. of medical officers in India ever believed in Cunningham's mysterious movements of cholera. That Dr. Cunningham's unscientific views have been an obstacle to sanitary progress in India there can be no doubt; but to imagine that, because an antiquated order still stands in the military regulations about a regiment marching "at right angles" to the wind on evacuating a cholera-stricken spot, therefore all medical officers believe in the air-borne theory of cholera diffusion is absurd, and unjust to us in India, as it is to the schools at home where we took our degrees. Does Mr. Hart imagine that graduates of London, Cambridge, Dublin, Edinburgh, or Aberdeen have never been taught anything more recent

than that on the subject of cholera? He must know that more than one brilliant medical officer in recent years has been punished by being sent to permanent military employ for his heresy in preaching the water-borne theory of cholera. Over-statement, however, is frequently useful as a rhetorical device for attracting attention. That Mr. Hart's remarks will do good we have not the slightest doubt.

Mons. Haffkine, who has now been with us in India for close on two years, was most enthusiastically received by the members of the Congress. He made a complete statement of the results of his inoculation work against cholera, and showed how hopeful he still was, and that all the evidence so far was in favour of his method. We have not space here to mention a tithe of the papers read during the meeting. Among those which must be mentioned, however, Dr. Crombie's Address on the fevers of India from the point of view of the amœba of Laveran; Dr. Harvey's moderate but telling reply to the anti-vivisectionists who have within the last few months begun to make themselves objectionable in this country; Dr. Moorhead's paper on cerebro-spinal fever; and Dr. L. T. Young's on the Carlsbad treatment of malarial cachexia; excited considerable interest and discussion. The undoubted existence of true typhus fever in the Punjab was proved by several papers. Diabetes, a common disease among the better class natives of this country, was the subject of three papers. Among parasitic diseases the question of prevalence of ankylostomiasis in Assam, Madras, and Ceylon came in for much attention, and much good has been done in clearing up some points on this subject. Its non-identity with *bèri-bèri*, which you in Dublin have had so recent an opportunity of studying, was again demonstrated. *Bèri-bèri*, indeed, is far from common in India, though I saw four cases within the last few weeks. This name should be abolished altogether, and endemic neuritis or some such title adopted.

Two whole days were devoted to cholera, to which Mons. Haffkine, Mr. Hankin of Agra, Dr. W. J. Simpson, and many others contributed.

The Surgical Section was well supported. Dr. Lawrie, of Hyderabad, in his opening Address dealt with the influence of four great surgeons—Pott, Syme, Simpson, and Lister—and reiterated his belief in the results of the Hyderabad Chloroform Commission. Regarding this point one remark may be made—that is, that there must be something racial or climatic to account for the wonderful safety of chloroform in India as compared with European countries. Every surgeon who has practised in India knows that he operates every year on a couple of hundred cases in which the chloroform is administered by a so-called "dresser," often little better than a coolie, on the pay of 8 rupees per month! Yet we never have had bad results in India, though fatal accidents freely occur in Europe where chloroform is administered by highly-trained specialists. How is this to be explained?

The subject of cataract evoked a lively discussion. The opinion of the majority of speakers, many of whom have done hundreds of cataracts every year—one man stated he had done twenty-five in one day—was that an iridectomy was unnecessary except in special cases (adhesions of iris, &c.); others—and the present writer among the number—prefer to stick literally and carefully to the steps of the operation as laid down by Mr. Swanzy.

A very interesting investigation into the diffusion of vesical calculus formed the subject of a paper by Dr. A. E. Roberts. Its prevalence among wheat-eating populations, and its almost entire absence among the rice-eating people, was investigated from a chemical point of view, which cannot here be discussed. Several papers on cranial and brain surgery evoked much discussion.

In the Section of Public Health, cholera, vaccination, malaria, the necessity of a more completely organised sanitary service, were among the subjects brought forward.

There can be no doubt that good will come of the Congress. It is not impossible that one of the first results of the meeting, and of the resolutions passed by it, will be that less money will be spent upon giving a veneer of higher education to thousands of natives with the almost sole result of making them discontented; and a good deal more upon sanitation, and other life-saving measures. The next meeting will be held in Bombay, in 1898.

[Among the graduates of the Irish Schools who took part in the Congress were Surgeon-Major Adams, Surgeon-Major Cunningham, Surgeon-Major L. T. Young, Surgeon-Captain Grainger, Surgeon-Captain A. Buchanan, Surgeon-Captain W. J. Buchanan, and Surgeon-Captain Malcolm Moore.]

The following remarks of Mr. Ernest Hart on the Cantonments Act Amendment Bill are reprinted at length :—

“There is another subject of great importance to our profession to which I should like briefly to draw your attention. You are aware that there is now before the Legislative Council of the Government of India a Bill called the Cantonments Act Amendment Bill. From ‘the statement of objects and reasons’ for the introduction of this measure, I gather that it has been introduced in compliance with direct instructions received from her Majesty’s Secretary of State for India for the purpose of prohibiting, under penalties, the examination of prostitutes in cantonments. From the discussion which took place in Council on the introduction of this measure it would appear that the Bill was suggested by a Commission appointed to enquire into the working of the Cantonment Act, more especially those portions of it which deal with the control and examination of prostitutes. It is interesting to note, in

passing, that this measure, which is certain to arouse the greatest opposition both in this country and in England, was carried in a Commission consisting of five persons, by the votes of three members as against two who opposed it. That such a proposal should have been accepted by the Government in England, and should have been forced on the Government of India, against the unanimous opinion of those best able to advise on the subject, must be to all of us a matter of extreme regret.

"It is not necessary for me here to refer to the large and important subject of the prevention of disease in the army. The question must be fought out in Parliamentary constituencies at home, and the British voter must be educated to appreciate the enormous loss of military efficiency, and the great cost to the country that must result when the most elementary precautions are neglected. The constituencies must be made to feel that, for a paltry and misapplied sentiment, the Government of England is subjecting thousands upon thousands of its subjects to disease and an early grave; and, through the discharged soldier who returns to civil life, destroying the health and happiness of generations of innocent women and children.

"Until such time as a change of sentiment has been effected in the British public in regard to this subject, we professional men must be content to assist in educating the public to a proper appreciation of this question. For the present, the duty of the Government of India, and of the officers serving under it, is plain—the policy now ordered must be carried out.

"As far as my knowledge goes, the Government of India has unreservedly accepted this position, and is loyally endeavouring to carry out this policy. What then is the object of such a Bill as this? and what are the motives of those who have pressed for its introduction? It is a hard thing to say, but a consideration of the provisions of the proposed Act can leave no doubt in the mind of any unprejudiced person that it is meant to humiliate the Government of this great Empire for some supposed neglect in the past, and at the same time to cast a slur on our profession by menacing those of our brethren who happen to be in the service of Government with criminal prosecution.

"A very brief consideration of the Bill will show that I have not overstated the case. The Bill consists of three clauses, the second and third of which only are of any consequence.

"The 2nd clause expressly prohibits the Government of India from making any rules on this subject. But we already know that the Government has solemnly declared that it will make no such rules. Can there be any doubt as to the slight and indignity that it is proposed to place on this Government through an act of its own Legislature? This part of the Bill, however, does not concern us, and we may safely leave it to be dealt with by the general public, who, to judge from the agitation on

the cotton duties, have become extremely sensitive as to the position that the Government of India now occupies in regard to the carrying out of orders which do not commend themselves to the judgment of those responsible for the government of this country.

"What we, as medical men, are most concerned with in the Bill is the third and last clause, which prohibits, under the penalty of a fine, the compulsory examination by a public servant of any woman. Can anybody reading this clause doubt for a moment that we have here penal legislation aimed at our professional brethren who happen to be in Government service? It insinuates that no trust can be placed in these gentlemen to carry out loyally and promptly the orders of Government on this subject, and that they must be compelled to do their duty by threats of criminal prosecution. Surely, it is a new principle in legislation that the failure to carry out an executive order should render an officer liable to prosecution for a criminal offence. I have already pointed out that there is no possible object for enacting the second clause, and I will now show that, except for the gratuitous menace to the medical profession, there can be no object for the third and last clause of this Bill. It is impossible to suppose that the persons who are insisting on this legislation are unaware of the fact that, under the existing law, the compulsory examination of a woman by any person is an offence under Section 354 of the Penal Code, and, as such, punishable with imprisonment for two years.

"If every woman in India is already protected by the existing law, what possible object can this proposed legislation have except to render medical officers liable to criminal prosecution on the evidence of abandoned women? This dangerous position for medical men in India is aggravated by the fact that it is possible to obtain any amount of false evidence at a small cost to sustain false charges brought for the purpose of levying blackmail.

"But this last clause will have an effect on these wretched women themselves which, it is hoped in the cause of humanity, the framers of the Bill did not mean to inflict on them. We who are called upon to prescribe for these diseases know that the treatment, if it is to be successful, must include a careful physical examination, not only at the commencement of the treatment, but during its progress.

"What will be the future relative positions of the medical officer and his patient if this Bill passes into law? His duty requires him to do the best he can for his patient; but is it reasonable to expect that he should do it at the risk of a criminal prosecution, and, possibly, professional ruin? Is it right to deprive even an abandoned woman of the best possible means of alleviating her sufferings by making it dangerous for her professional adviser to ascertain what she is suffering from?

"I feel certain that this Congress will not allow this Bill to pass into

law without a respectful protest against it. Speaking for the profession at home, I feel that it is only necessary to bring this subject to the notice of our brethren in England to obtain their co-operation in asking the Secretary of State to reconsider the position which the Government has taken up in this matter."

The matter was the subject of a special resolution sent up to Government, proposed and passed by the unofficial members of the Congress, as a protest against the insult implied to the Government Medical Officer.

BRITISH MEDICAL SERVICE.

THE following is the official list of Surgeons on Probation of the Medical Staff of the British Army who were successful at both the London and Netley Examinations. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows:—

January 31st, 1895.

	Combined Marks.		Combined Marks.
* 1 Harrison, W. S.	- 5,052	7 Staddon, H. E.	- 3,983
2 Howell, H. A. L.	- 4,931	8 Whitehead, J. H.	- 3,877
^b 3 Lawson, D.	- 4,356	9 Murison, J. A.	- 3,837
4 Steel, E. B.	- 4,316	10 Tomlinson, L. P.	- 3,746
5 Profeit, C. W.	- 4,261	11 Perry, S. J. C. P.	- 3,614
6 Kiddle, F.	- 4,183	12 Heaton, A. F.	- 3,552

HYPNOTIC SUGGESTION IN UNCONTROLLABLE VOMITING.

DR. JAMIESON reports a case in the *Australasian Medical Gazette*, in which Mr. J. M. Creed successfully applied hypnotic suggestion in the treatment of a case of uncontrollable vomiting in pregnancy. The patient, aged 22, in the eighth month of her third pregnancy, gave birth to a child which had been dead for some time. Persistent vomiting from which she had been suffering previously continued, and resisted all the usual remedies. After partial hypnotisation by Mr. Creed, she felt better and did not vomit for three days. Suggestion was then repeated, with uninterrupted success; except that, on the twelfth day from the first hypnosis she vomited for about three hours. This attack was overcome by hypnosis, and subsequent recovery was continuous.

* Gained the de Chaumont Prize in Hygiene, and the Martin Memorial Medal.

^b Gained the Montefiore Second Prize in Surgery.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE. M.D., F.R.C.P.I.

General Secretary—W. THOMSON, F.R.C.S.I.

SECTION OF OBSTETRICS.

President—DR. R. D. PUREFOY.

Sectional Secretary—DR. F. W. KIDD.

Friday, November 23, 1894.

Specimens exhibited.

DR. W. J. SMYLY exhibited the following specimens:—8 ovarian cysts, including 2 dermoids; 2 specimens of interstitial salpingitis; 4 specimens of double pyosalpinx; 1 fibro-cystic tumour of the uterus; 2 fibro-myomata (one suppurating), removed from the same patient by abdominal section; 6 uteri, in which the entire organ, including the cervix, had been removed by abdominal section (Martin's method); 1 uterus, removed by abdominal hysterectomy, with intra-peritoneal treatment of stump; 4 myomatous uteri removed per vaginam by Doyen's method (morcellement). The fragments of the largest specimen weighed 4 lbs. 12 ozs., and of the smallest $1\frac{3}{4}$ lbs. The operation in the latter case was necessitated by cancer of the mucous membrane; 4 specimens of cancerous uteri removed per vaginam; 1 suppurating kidney. In this case the tumour was of enormous size, and a diagnosis was not possible until the hilum of the kidney was reached.

The only death was after the removal of a myomatous uterus with intra-peritoneal treatment of the stump; but the cause of death being shock, the method of dealing with the stump could not be blamed for the result.

He also showed a six months' fœtus removed from a case of secondary abdominal pregnancy. The sac consisted of the fœtal membranes, and was soft and friable. The intestines were firmly adherent to it, and considerable difficulty was found in separating the adhesions. The patient died on the third day from asthenia. On *post-mortem* examination the abdominal cavity appeared healthy.

A Specimen of Ruptured Uterus.

The patient was admitted to the Rotunda Hospital 20 hours after the rupture had taken place. Dr. Murphy, the clinical clerk, having been

called to the case, found the uterus ruptured and foetus and placenta in the abdominal cavity. Having delivered both *per vias naturales*, and plugged the rent and vagina with iodoform gauze, the patient was conveyed to the hospital. Dr. Smyly saw her about midnight; she was then in a very exsanguine condition, but no blood was escaping externally. He therefore determined to wait and employ restoratives, but at the end of an hour, it being evident that she was losing ground, he opened the abdomen, which was found full of blood. The uterus, which was well contracted, was torn across the anterior aspect of the lower segment and completely separated from the bladder. The rent extended into the vagina. The uterus having been drawn out of the abdominal cavity, it was found impossible to apply the *serre nœud* sufficiently low to control the hæmorrhage; the entire organ was therefore removed, the rent in the vagina sutured, all the ligatures drawn down through the vagina, and the peritoneal cavity closed above them with fine catgut sutures. The patient, however, died of sepsis on the fourth day, and had probably been infected before admission.

Cæsarean Section.

DR. SMYLY also showed the uterus of a patient who had died after Cæsarean section. It was the second operation upon the same patient. The operation had to be commenced just when daylight was fading and was finished by lamplight. After opening the abdomen and drawing out the uterus the intestines were found firmly adherent to the old cicatrix, and were detached with some difficulty. The line of union was so thin that it gave way to pressure with the thumb; the foetus was rapidly extracted, cried immediately, and is still alive and well. The sides of the uterine incision were split with scissors, as the cicatricial margins did not offer sufficient raw surface to insure firm union, and united with alternate superficial and deep sutures. The uterus contracted well, and there was no *post-partum* hæmorrhage. The intestines were carefully examined and appeared to have been uninjured. Next day symptoms of peritonitis set in, and the abdomen began to swell. A stitch having been removed and a drainage-tube inserted, a large quantity of serous fluid escaped. She died on the morning of the fourth day. At the *post-mortem* examination a small opening was found in the intestine, and the fact that it was not discovered at the operation was due to the imperfect light.

Further Exhibition of Specimens.

DR. ALFRED SMITH showed—(1) a pair of non-cystic pyosalpinges which he removed from a married woman aged twenty-eight. The patient had suffered from a severe attack of puerperal fever, and was an invalid since the birth of her child four years ago. There was constant

abdominal pain, referred to both inguinal regions, and profuse menstruation, accompanied by great pain. Patient made a good recovery.

(2) A large unilocular ovarian tumour, which caused some difficulty in removing on account of very extensive adhesions. On breaking them through they bled considerably; a gauze sponge wrung out of hot water arrested the hæmorrhage. A drainage-tube was considered necessary, as the weeping from the freshened surface was rather heavy. The amount of discharge from drainage-tube was great, requiring to be dressed every hour. The drainage-tube was rotated on each occasion to prevent adhesions; this was not successful, as on the removal of the tube on the 4th day a loop of intestines was found firmly anchored to the tube by a long firm adhesion, which had coiled round and round the tube. On withdrawing the tube the loop of intestine came out through the abdominal wound. An attempt was made to break down the adhesion from the inside of the tube by curetting without result; neither could the adhesion be broken down by breaking it off with a gauge pad. The adhesion had to be ligatured and cut; in doing so, unfortunately, the intestine was opened and some fæces escaped, fouling the parts. This was carefully mopped up, a purse-string suture put in, also a Lembert's. The surface of the wound was anointed by sterilised oil after Martin's method and returned. The patient made a splendid recovery; no reaction followed.

(3) A large dermoid cyst with extensive adhesions. Numerous calcified plates were in the wall of the cyst; these, when palpating the tumour before the operation, produced a sound like that of breaking egg-shells; it was certainly very remarkable and somewhat obscured the diagnosis. Very little fluid in the tumour, which was the size of a sixth-month pregnant uterus, the contents being sebaceous, putty-like material, which dissolved in ether. On plunging the trocar to empty the cyst the lumen of the tube, a large Spencer Wells', was blocked with this putty material, and none of the contents of the tumour escaped, and gave the sensation of plunging into a soft œdematous myoma. On withdrawing trocar the characteristic dermoid fluid escaped, establishing the diagnosis. The tumour rotated and discharged a great quantity of its contents into the peritoneal cavity. This accident caused anxiety on account of the rise in temperature of the patient before operation. However, the abdominal cavity was well douched out with gallons of normal saline solution, (temp. 100° F.) with a three-foot pressure—also drainage. The recovery was rapid and uneventful.

(4) A hydrosalpinx removed from a patient, aged twenty-nine, who had puerperal fever after her first child six years ago. The history, the symptoms, and the bi-manual examination pointed to a cystic pyosalpinx, but the abdominal section revealed a fine specimen of hydrosalpinx. Recovery good.

(5) A pair of large phosphatic vesical calculi, removed from a farmer's wife, aged 40. An attempt was made to remove them through the urethra, but failed; a section was made through the vesico-vaginal wall, and the calculi were easily picked out with the finger. The larger stone, the size of a large walnut, was found growing like a barnacle on the base of the posterior wall of the bladder. The patient was able to leave hospital twelve days after operation.

DR. PUREFOY wished to know what had led to the formation of the calculi? Also in the case of hydrosalpinx, when it was ascertained that it was a case of hydrosalpinx, whether Dr. Smith had not thought of retaining instead of removing it?

DR. POTTER asked why the calculi had not been crushed instead of removing them through a vesico-vaginal fistula?

DR. SMITH, replying, said that there was no evident cause for the formation of the calculi. The woman from whom he had removed them was a farmer's wife. She had the usual history of sudden stoppage while passing water, and of being able to pass more on altering her position. Considering the short time (in this case 10 days) that the vesico-vaginal fistula took to heal, he preferred removing it that way instead of crushing.

With regard to the hydrosalpinx. He considered it was useless owing to the puckering due to adhesions, and so had removed it, especially as the tube on the opposite side was all right.

An Encapsulated Tumour Removed from the Vaginal Wall.

DR. ATTHILL exhibited an encapsulated tumour removed from the vaginal wall. He said:—

In March, 1893, the patient from whom this tumour was removed came under my care. She was a young unmarried lady, and consulted me in consequence of a feeling of discomfort at the orifice of the vagina.

I found an elastic tumour, oblong in shape, lying a little to the right of the urethra, which it slightly displaced; it was nearly two-thirds of an inch in length, and extended backwards from a little to the inside of the urethra. It had an elastic feel and was painless.

I deemed it better to temporise and watch its progress. In six weeks I saw the lady again, the tumour is little altered except that a sulcus could be traced all round the base, and I came to the conclusion that it was an encysted tumour and that it would most probably have to be removed.

I did not see the lady till two months ago, when the increased size of the tumour made her willing to undergo an operation. Acting on the opinion that it was probably encysted, I made an incision down its centre, and came at once on the capsule. This was peeled off from the tumour with the nail and handle of knife. The only part that gave trouble was at

the point nearest to the orifice of the urethra, but I had to work carefully and quite deeply, but finally shelled the tumour out quite perfectly. There was some venous hæmorrhage subsequently, which was easily restrained by a plug.

Cystic tumours are met with commonly enough in the vagina, but an encapsulated solid tumour I have not previously seen, or indeed read of.

Specimens exhibited by DR. MORE MADDEN:—

1. A Case of Molar Pregnancy;
2. Broad Ligament Cystic Tumour; and
3. Ovarian Tumour.

Reported by MR. DEMPSEY.

Molar Pregnancy.—Mrs. C. H., aged thirty-five, was admitted to the Mater Hospital suffering from chronic nephritis, for which complaint she was being treated, when symptoms referable to uterine trouble appeared, and the patient was placed under Dr. More Madden's care. The following were her symptoms:—The patient had missed four of her menstrual periods and believed herself pregnant. Bloody discharges however followed the cessation of the menses. Physical examination showed all the early signs of pregnancy except that the abdomen was over-distended for the time, and that no movements or parts of a foetus could be discerned. Accordingly, a vaginal examination was made, when no ballottement was apparent or parts of a foetus discernible, and accordingly Dr. More Madden diagnosed a hydatidiform mole. He therefore determined to dilate the cervix, and remove the mass. This was done and the uterus plugged with iodoform gauze. A few days after he found some more of the mass present which was similarly removed. After operation the patient had a temperature of 103° F. and was much collapsed for some days, her temperature finally reaching 105·2° on the day of her death. The cause of death may be attributed to the chronic nephritis having so debilitated the patient that she succumbed to the effects of the operation.

Cystic Tumour—Broad Ligament.—B. C., single, aged twenty-eight, was admitted under Dr. More Madden's care, on October 18th. She complained of severe pain in the right hypochondrium, which was tender on pressure. The pain had been growing in intensity and was now very acute. There was severe vomiting. Menstruation normal in every respect. Dulness on percussion, with deep-seated fluctuation. Laparotomy was performed, and the cyst brought into view. Having done so it was drained with a Spencer Wells' trocar and cannula and removed, no adhesions being present. The broad ligament was doubly ligatured, and abdomen thoroughly washed out with a warm boracic solution. The wound was sutured with four silver wire sutures, including

peritoneum, muscle, and superficial parts. The skin was brought together by a number of silkworm gut sutures. All the sutures were removed on the tenth day after operation, the wound having healed by first intention. The patient's temperature never exceeded 100°, her recovery being uninterrupted and rapid.

A Case of Ovariectomy.—N. R., aged sixteen, farmer's daughter; began to menstruate at fourteen, continued regular until six months before admission, when enlargement of abdomen and failure of general health, leading to suspicion of being pregnant. Medical examination was resorted to and a tumour was diagnosed. Admitted to the Mater Hospital on 12th of September, 1894. On the following day operation was performed, the tumour being successfully removed. Ten days afterwards the stitches were removed, and the patient left hospital.

PROFESSOR M'WEENEY had prepared several sections showing the microscopic appearance of an ovarian tumour removed by Dr. More Madden. The wall of the tumour showed numerous papillomata, covered with high columnar epithelium, while the subjacent connective tissue was to a great extent in a state of mucoid degeneration.

Amputation in Utero.

DR. F. W. KIDD exhibited a specimen showing the process of amputation "in utero," by amniotic bands. Specimen was a foetus of about 4 months—had come away before patient came into Coombe Hospital, and had been roughly treated, having its head almost separated from its body. Adhesive bands had amputated portions of fingers on both hands, and extending to the feet had amputated some of the toes and one band was amputating one of the lower limbs, midway between the knee and ankle. Foetus also had double hare lip. The specimen was interesting on account of its rarity.

THE PRESIDENT delivered a short Inaugural Address. He reviewed the work done by the members of the Section during the previous Session, and touched on the improvements in the treatment of and operations on the different organs usually treated by the gynaecologist and obstetrician.

DR. W. J. SMYLY read his "Clinical Report of the Rotunda Lying-in Hospital, for the year ending October 31st, 1893."

Owing to the lateness of the hour DR. MACAN proposed that the discussion on the Rotunda Hospital Report be postponed till the next meeting, which was agreed to.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.; F.R.C.P.I.;
F.R.Met. Soc.; Diplomat in State Medicine and ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS

For four Weeks ending Saturday, January 26, 1895.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

TOWNS	Weeks ending				TOWNS	Weeks ending			
	Jan. 5.	Jan. 12.	Jan. 19.	Jan. 26.		Jan. 5.	Jan. 12.	Jan. 19.	Jan. 26.
Armagh -	21·0	21·0	49·1	49·1	Limerick -	16·8	14·0	30·9	32·3
Belfast -	23·9	20·0	30·9	26·7	Lisburn -	21·3	8·5	21·3	46·8
Cork -	26·3	24·2	36·7	29·8	Londonderry	17·3	11·0	34·6	23·6
Drogheda	17·6	4·4	17·6	22·0	Lurgan -	22·8	13·7	45·6	59·3
Dublin -	27·3	30·1	39·2	30·6	Newry -	24·1	36·2	32·2	32·2
Dundalk -	25·1	58·6	12·6	37·7	Sligo -	35·5	25·4	0·0	20·3
Galway -	26·4	34·0	41·5	41·5	Waterford -	22·5	17·5	27·5	25·0
Kilkenny	4·7	13·9	28·6	18·9	Wexford -	22·6	45·2	27·1	31·6

In the week ending Saturday, January 5, 1895, the mortality in thirty-three large English towns, including London (in which the rate was 17·4), was equal to an average annual death-rate of 18·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 21·8 per 1,000. In Glasgow the rate was 24·6, and in Edinburgh it was 20·3.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 24·6 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·7 per 1,000, the rates varying from 0·0 in seven of the districts to 9·1 in Lurgan—the 5 deaths from all causes registered in that district comprising 2 from whooping-cough. Among

the 125 deaths from all causes registered in Belfast are 1 from measles, 2 from scarlatina, 2 from whooping-cough, and 3 from diarrhoea. The 38 deaths in Cork comprise 3 from whooping-cough and 1 from enteric fever. The 12 deaths in Limerick comprise 1 from scarlatina and 1 from whooping-cough.

In the Dublin Registration District the registered births amounted to 201—95 boys and 106 girls; and the registered deaths to 190—95 males and 95 females.

The deaths, which are 30 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 28·3 in every 1,000 of the population, or 4·5 under the mean rate for the first week of the ten years 1885—1894. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 27·3 per 1,000.

The number of deaths from zymotic diseases registered was 17, being 10 under the number for the preceding week, and 6 below the average for the first week of the last ten years. The 17 deaths comprised 5 from small-pox, 2 from influenza and its complications, 1 from whooping-cough, 2 from enteric fever, 2 from diarrhoea, and 2 from erysipelas. Of the 5 persons who died from small-pox, 2 (aged respectively 29 and 50 years) had been vaccinated and 3 (aged respectively 5 weeks, 12 years, and 16 years) were unvaccinated.

Seventy-one cases of small-pox were admitted to hospital, being 39 in excess of the admissions for the preceding week, but 42 under the number for the week ended December 22nd. Twenty-six small-pox patients were discharged, 16 died, and 170 remained under treatment on Saturday, being 29 over the number in hospital at the close of the preceding week. This number is exclusive of 121 convalescent patients in the South Dublin Union Small-pox Hospital, Kilmainham.

The number of cases of enteric fever admitted to hospital was 9, being 2 under the number for the preceding week: 14 enteric fever patients were discharged, 1 died, and 61 remained under treatment on Saturday, being 6 under the number in hospital on Saturday, December 29.

The hospital admissions for the week included, also, 26 cases of scarlatina, being 19 over the number for the preceding week, and equal to the admissions in the week ended December 22. Ninety-seven cases of this disease remained under treatment in hospital on Saturday, against 79 at the close of the preceding week.

The number of deaths from diseases of the respiratory system registered was 48, being 11 over the number for the preceding week, but 12 under the average for the first week of the last ten years. The deaths comprised 31 from bronchitis, 13 from pneumonia or inflammation of the lungs, and 2 from pleurisy.

In the week ending Saturday, January 12, the mortality in thirty-three large English towns, including London (in which the rate was 19·3), was equal to an average annual death-rate of 20·1 per 1,000 persons living. The average rate for eight principal towns of Scotland was 25·5 per 1,000. In Glasgow the rate was 28·7, and in Edinburgh it was 24·3.

The average annual death-rate in the sixteen principal town districts of Ireland was 24·6 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·0 per 1,000, the rates varying from 0·0 in ten of the districts to 9·1 in Lurgan—the 3 deaths from all causes registered in that district comprising 1 from measles and 1 from scarlatina. Among the 105 deaths from all causes registered in Belfast are 4 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, 2 from enteric fever, and 1 from diarrhoea. The 35 deaths in Cork comprise 1 from whooping-cough, and 1 from diarrhoea. The 10 deaths in Limerick comprise 1 from scarlatina and 1 from whooping-cough.

In the Dublin Registration District the registered births amounted to 201—93 boys and 108 girls; and the registered deaths to 208—104 males and 104 females.

The deaths, which are 41 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 31·0 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 30·1 per 1,000. During the first two weeks of the current year the death-rate averaged 29·7, and was 5·3 under the mean rate in the corresponding period of the ten years 1885–1894.

The number of deaths from zymotic diseases registered was 27, being 10 over the number for the preceding week, but 2 below the average for the second week of the last ten years. The 27 deaths comprise 11 from small-pox, 2 from scarlet fever (scarlatina), 1 from influenza, 2 from whooping-cough, 1 from ill-defined fever, 2 from enteric fever, 1 from diarrhoea, and 2 from erysipelas. Of the persons who died from small-pox 5 (aged respectively 10, 21, 40, 42, and 64 years) had been vaccinated and 6 (aged respectively 1, 3, 4, 9, 9, and 13 years) were unvaccinated.

Eighty-eight cases of small-pox were admitted to hospital, being 17 in excess of the admissions for the preceding week: 53 small-pox patients were discharged, 11 died, and 194 remained under treatment on Saturday, being 24 over the number in hospital at the close of the preceding week: This number is exclusive of 151 convalescent patients in the South Dublin Union Small-pox Hospital, Kilmainham.

The number of cases of enteric fever admitted to hospital was 5, being 4 under the admissions in the preceding week and 6 under those in the

week ended December 29th, 1894. Nine enteric fever patients were discharged, 1 died, and 56 remained under treatment on Saturday, being 5 under the number in hospital on Saturday, January 5th.

The hospital admissions for the week included, also, 7 cases of scarlatina, a number showing a decline of 19 as compared with the admissions of cases of that disease during the preceding week. Ninety-eight cases of the disease remained under treatment on Saturday, being 1 over the number in hospital at the close of the preceding week.

The number of deaths from diseases of the respiratory system registered was 57, being 9 over the number for the preceding week, but 15 below the average for the second week of the last ten years. The 57 deaths comprised 38 from bronchitis and 14 from pneumonia or inflammation of the lungs.

In the week ending Saturday, January 19, the mortality in thirty-three large English towns, including London (in which the rate was 20·0), was equal to an average annual death-rate of 21·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 28·3 per 1,000. In Glasgow the rate was 31·0, and in Edinburgh it was 28·9.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 34·1 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·8 per 1,000, the rates varying from 0·0 in ten of the districts to 31·9 in Lurgan—the 10 deaths from all causes registered in that district comprising 4 from measles and 3 from whooping-cough. Among the 162 deaths from all causes registered in Belfast are 1 from whooping-cough, 8 from diphtheria, 4 from enteric fever, and 8 from diarrhoea. The 53 deaths in Cork comprise 6 from whooping-cough. The 22 deaths in Londonderry comprise 1 from enteric fever and 1 from diarrhoea.

In the Dublin Registration District the registered births amounted to 210—114 boys and 96 girls; and the registered deaths to 274—128 males and 146 females.

The deaths, which are 32 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 40·9 in every 1,000 of the population. Omitting the deaths (numbering 11) of persons admitted into public institutions from localities outside the district, the rate was 39·2 per 1,000. During the first three weeks of the current year the death-rate averaged 33·4, and was 1·9 under the mean rate in the corresponding period of the ten years, 1885—1894.

Thirty-three deaths from zymotic diseases were registered, being 4 above the average for the corresponding week, and 6 over the number in the week ended January 12. They comprise 10 from small-pox, 1 from

scarlet fever (*scarlatina*), 5 from influenza and its complications, 4 from whooping-cough, 2 from simple continued and ill-defined fever, 2 from enteric fever, 3 from diarrhoea, 1 from dysentery and 1 from erysipelas. Of the 10 persons who died from small-pox, 5 (aged respectively 9 days and 24, 24, 38, and 55 years) had been vaccinated; 4 (aged respectively 36, 40, 45, and 50 years) were unvaccinated, and, as regards the remaining case, the return contained no statement as to vaccination.

The number of cases of small-pox admitted to hospital was 61, being a decline of 27 as compared with the admissions in the preceding week, and 10 under the number for the week ended January 5. Sixty-two small-pox patients were discharged, 7 died, and 186 remained under treatment on Saturday, being 8 under the number in hospital on that day week. This number is exclusive of 134 convalescents in the South Dublin Union Small-pox Hospital, Kilmainham.

Eight cases of enteric fever were admitted to hospital, being 3 over the admissions in the preceding week, but 1 under the number in the week ended January 5. Ten patients were discharged, and 54 remained under treatment on Saturday, being 2 under the number in hospital at the close of the preceding week.

The hospital admissions included, also, 7 cases of scarlatina, being equal to the number of cases of that disease admitted during the preceding week, but 19 under the admissions in the week ended January 5. Eighty-six cases of the disease remained under treatment on Saturday, being 12 under the number in hospital on that day week.

Deaths from diseases of the respiratory system, which had risen from 48 in the week ended January 5 to 57 in the following week, further rose to 69, but this number is 3 under the average for the corresponding week of the last ten years. The 69 deaths comprised 52 from bronchitis, 11 from pneumonia or inflammation of the lungs, and 2 from croup.

In the week ending Saturday, January 26, the mortality in thirty-three large English towns, including London (in which the rate was 17·6), was equal to an average annual death-rate of 18·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 24·2 per 1,000. In Glasgow the rate was 27·8, and in Edinburgh it was 22·1

The average annual death-rate in the sixteen principal town districts of Ireland was 29·7 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 2·7 per 1,000, the rates varying from 0·0 in eight of the districts to 27·4 in Lurgan—the 18 deaths from all causes registered in that district comprising 1 more from measles, 4 from whooping-cough, and 1 from diarrhoea. Among the 140 deaths from all causes registered in Belfast are 4 from measles, 3 from whooping-cough, 1 from diphtheria, 2 from enteric fever, and 2 from diarrhoea.

The 43 deaths in Cork comprise 4 from whooping-cough, and the 7 deaths in Wexford comprise 2 from scarlatina. The Registrar for the last-named district remarks:—"The deaths from scarlatina occurred several weeks ago: I have two cases of the disease under my own care, which are the only ones of which I am cognisant."

In the Dublin Registration District the registered births amounted to 212—108 boys and 104 girls; and the registered deaths to 208—117 males and 91 females.

The deaths, which are 22 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 31·0 in every 1,000 of the population. Omitting the deaths (numbering 3) of persons admitted into public institutions from localities outside the district, the rate was 30·6 per 1,000. During the first four weeks of the current year, the death-rate averaged 32·8, and was 2·3 under the mean rate in the corresponding period of the ten years 1885—1894.

Twenty-six deaths from zymotic diseases were registered, being 1 below the average for the corresponding week of the last ten years, and 7 under the number for the previous week. They comprise 7 from small-pox, 2 from scarlet fever (scarlatina), 3 from influenza and its complications, 2 from whooping-cough, 1 from diphtheria, 5 from enteric fever, 2 from diarrhoea, and 1 from dysentery. Of the 7 persons who died from small-pox, 3 (aged respectively 5, 35, and 64 years) had been vaccinated; 2 (aged respectively 9 and 17 years) were unvaccinated, and as regards the remaining cases, the returns contained no statement as to vaccination.

The number of cases of small-pox admitted to hospital was 64, being an increase of 3 as compared with the admissions for the preceding week, but 24 under the number for the week ended January 12. Seventy-three small-pox patients were discharged, 6 died, and 171 remained under treatment on Saturday last, being 15 under the number in hospital on the previous Saturday. This number is exclusive of 147 convalescent patients in the South Dublin Union Small-pox Hospital, Kilmainham.

Since the appearance of this disease in July last the deaths from it within the Dublin Registration District registered in each week from the 21st July to the 26th January have been respectively 1, 0, 1, 1, 3, 6, 0, 1, 2, 0, 2, 4, 2, 2, 4, 1, 4, 3, 1, 3, 6, 5, 6, 10, 5, 11, 10, and 7, making a total of 101 deaths, all except three of which occurred in hospital; and the admissions to hospital during the same period have been 0, 4, 9, 26, 37, 14, 16, 16, 12, 13, 19, 8, 8, 28, 15, 28, 37, 24, 18, 37, 31, 86, 113, 32, 71, 88, 61, and 64 weekly.

Eight cases of enteric fever were admitted to hospital, being equal to the admissions for the preceding week: 11 patients were discharged, 1 died, and 50 remained under treatment on Saturday, being 4 under the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 4 cases of scarlatina, being a decline of 3 as compared with the number of cases from that disease admitted during the preceding week. Seventy-four cases of the disease remained under treatment on Saturday, being 12 under the number in hospital on that day week.

Deaths from diseases of the respiratory system which had risen from 57 for the week ended January 12 to 69 for the following week, fell to 48, or 14 under the average for the corresponding week of the last ten years. The 48 deaths comprised 29 from bronchitis and 15 from pneumonia or inflammation of the lungs.

METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat 53° 20' N.,
Long. 6° 15' W., for the Month of January, 1895.*

Mean Height of Barometer,	-	-	-	29·760 inches.
Maximal Height of Barometer (on 30th, at 7 p.m.),	-	-	-	30·630 „
Minimal Height of Barometer (on 14th, at 7 30 a.m.),	-	-	-	28·733 „
Mean Dry-bulb Temperature,	-	-	-	34·6°.
Mean Wet-bulb Temperature,	-	-	-	33·4°.
Mean Dew-point Temperature,	-	-	-	30·9°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	-	·175 inch.
Mean Humidity,	-	-	-	86·6 per cent.
Highest Temperature in Shade (on 22nd),	-	-	-	44·8°.
Lowest Temperature in Shade (on 9th),	-	-	-	16·9°.
Lowest Temperature on Grass (Radiation) (on 9th),	-	-	-	12·0°.
Mean Amount of Cloud,	-	-	-	64·9 per cent.
Rainfall (on 24 days),	-	-	-	5·711 inches.
Greatest Daily Rainfall (on 12th),	-	-	-	1·802 inches.
General Directions of Wind,	-	-	-	W., N.W., N.E.

Remarks.

A very severe month, with much snow and frost alternating with frequent thaws. The wind was very variable in direction, but came generally from polar quarters—from W. to S.E. through the northerly points of the compass. The coldest January since 1881, and as regards rainfall a record month. The precipitation was chiefly in the form of snow or sleet and hail. It amounted to 5·711 inches, or considerably more than double the average rainfall for January, and 1·889 inches in excess of the rainfall for this month in 1877, which had been the record January rainfall up to the present year. The snowstorm of the 12th was in Dublin a perfect blizzard.

In Dublin the arithmetical mean temperature (35·4°) was much below

the average (41.4°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 34.6° . In the thirty years ending with 1894, January was coldest in 1881 (M. T. = 38.2°), and warmest in 1875 (M. T. = 46.6°). In 1867, the M. T. was 35.7° ; and in 1865 it was 37.8° . In 1871 and in 1886 the M. T. was 37.9° ; in 1879 (the "cold year") it was 35.3° ; In 1888 the M. T. was 42.1° ; in 1889, 42.4° ; in 1890, 44.5° ; in 1891, 40.1° ; in 1892, 38.8° ; in 1893, 40.8° ; and in 1894, 41.0° . As a general rule, January in Dublin is not colder, but a shade warmer, than December. This is owing to the full development in January of a winter area of low pressure over the Atlantic, to the northwestward of the British Isles, and to a resulting prevalence of S.W. winds in their vicinity. January, 1895, proved an extreme exception to this rule, the M. T. being 8.5° below that of December, 1894 (43.9°).

The mean height of the barometer was 29.760 inches, or 0.114 inch below the corrected average value for January—namely, 29.874 inches. The mercury rose to 30.630 inches at 7 p.m. of the 30th, and fell to 28.733 inches at 7 30 a.m. of the 14th. The observed range of atmospheric pressure was, therefore, as much as 1.897 inches—that is, a little less than one inch and nine-tenths.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 34.6° , or 8.4° below the value for December, 1894. Using the formula, *Mean Temp.* = *Min.* + (*max.* — *min.* $\times .52$), the M. T. becomes 35.6° , compared with a twenty-five years' average of 41.5° . The arithmetical mean of the maximal and minimal readings was 35.4° , compared with a twenty-five years' average of 41.4° . On the 22nd the thermometer in the screen rose to 44.8° —wind, W.; on the 9th the temperature fell to 16.9° —wind, W. The minimum on the grass was 12.0° , also on the 9th.

The rainfall was 5.711 inches, distributed over 24 days. The average rainfall for January in the twenty-five years, 1865–89, inclusive, was 2.200 inches, and the average number of rainy days was 17.3. The rainfall, therefore, and the rainy days were both much above the average. In 1877 the rainfall in January was very large—4.322 inches on 25 days; in 1869, also, 4.258 inches fell—on, however, only 18 days. On the other hand, in 1876, only .406 inch was measured on but 9 days; and in 1880 the rainfall was only .563 inch on but 8 days. In January, 1886, 3.244 inches of rain was measured on 26 days; in 1887 (the "dry year,") 1.816 inches fell on 16 days; in 1888, 1.247 inches on 9 days; in 1889, 2.213 inches on 16 days, in 1890, 2.975 inches on 21 days; in 1891, only .672 inch on 14 days; in 1892, 1.698 inches on 20 days; in 1893, 2.289 inches on 19 days, and in 1894, 2.838 inches on 23 days.

Lunar halos were seen on the 5th and 6th. The atmosphere was foggy on the 8th, 9th, 18th, 19th, and 28th. High winds were noted on 13 days, reaching the force of a gale on 4 days—the 6th, 11th, 12th,

and 24th. Hail fell on the 2nd, 6th, 7th, 8th, 10th, 13th, 21st, 24th, 25th and 31st, and snow or sleet on the 3rd, 5th, 6th, 7th, 8th, 10th, 12th, 13th, 25th, 27th, 28th, 30th, and 31st. Temperature never exceeded 45° in the screen; while it fell to or below 32° in the screen on 18 nights, compared with 7 nights in 1894, 4 nights in 1893, 15 nights in 1892, 7 nights in 1891, 1 night in 1890, and 3 nights in 1889. The minima on the grass were 32° , or less, on 29 nights, compared with 17 nights in 1894, 16 nights in 1893, 25 nights in 1892, 21 nights in 1891, 15 nights in 1890, and 16 nights in 1889.

The record for the period ended Saturday the 5th, is one of very cold, changeable weather, fresh to strong westerly to northerly winds, alternate cloud and sunshine, rain or snow and frost. Tuesday, the 1st, was fair and frosty, but a thaw set in at night and a good deal of cold rain fell on Wednesday. In the evening squalls of heavy rain and hail passed over Dublin, and the wind (which had backed to W. or W.S.W.) began again to veer towards N. By Thursday morning a depression of some intensity had formed over the Straits of Dover and the N.E. of France. This caused cold showers, and strong northerly winds in the British Isles. In Dublin the weather on this day was very bright and dry, but heavy showers were seen to pass southwards out at sea, and thunder, lightning and hail occurred in the Scilly Islands at night. Sharp frost set in on Friday, but the approach of a new depression from N.W. brought sleet and rain on Saturday, the phenomenon of a "glazed frost" being observed in Dublin throughout the forenoon. The height of the barometer in Dublin ranged between 29.705 inches at 9 p.m. of Wednesday (wind W.N.W.) and 30.313 inches at 9 p.m. of Friday (wind, N.W.). On Wednesday the screened thermometers rose to 42.9° ; on Saturday, they fell to 26.9° . The minimum on the grass on the latter day was 21.0° . Rain fell on three days to the total amount of .318 inch, .218 inch being measured on Wednesday. The prevailing wind was N.W. Hail fell on Wednesday; sleet, or snow, on Thursday and Saturday.

Weather of exceptional severity held throughout Western Europe all through the week ended Saturday the 12th. Until Wednesday, the barometer was highest off the W. and N.W. of Ireland, low over Great Britain and Central Europe, lowest over Italy and the Mediterranean. Hence polar winds prevailed, and there were frequent falls of snow and hail. On Tuesday snow fell in large quantities in and about Dublin at a temperature of 29° —the depth of snow on the level was $2\frac{1}{2}$ inches. The sky became cloudy at night, checking radiation; but afterwards the clouds dispersed and temperature fell with great rapidity to 16.9° in the screen and 12.0° on the snow. Hard frost prevailed throughout Wednesday, cirro-cumulus clouds coming from E.S.E. and S.E., while a light westerly land breeze and much fog held all day. Atmospheric pressure now gave way in the W., so that a decided southerly air-current spread

over Ireland, with a rising thermometer, thaw, and falls of rain, sleet, and hail. At this time, the frost "stiffened" in England and remained intense in Scotland. On Friday, at 8 a.m., the thermometer read 11° at Aberdeen, 14° at York, 16° at Loughborough, 18° at Shields, and 19° at Oxford. In Dublin there was a steady thaw on this day, with a piercingly cold S.S.E. wind, which momentarily freshened, until at night it blew a fresh to strong gale. After midnight the most violent snow-storm experienced since January 18, 1881, began and raged until late on Saturday afternoon. It was renewed on Saturday night, so that no such snowfall has occurred in Dublin since 1855—the "Crimean winter." In Dublin the mean atmospheric pressure was 29.762 inches, the barometer rising to 30.053 inches at 9 p.m. of Monday (wind N.N.E.), and falling to 29.058 inches, at 9 p.m. of Saturday (wind S.E.). The corrected mean temperature was 32.6° . The mean dry bulb reading at 9 a.m. and 9 p.m. was 31.9° . On Sunday the screened thermometers rose to 41.6° , on Wednesday they fell to 16.9° . The rainfall (which consisted chiefly of snow and hail) amounted to 3.012 inches, on six days, .847 inch being credited to Friday and 1.802 inches to Saturday. The prevailing winds were N.N.E. and S.S.E.

The record of the week ended Saturday, the 19th, is again one of cold, wintery, and generally unsettled weather. The cold was certainly not so severe as that felt in the previous week, but in Dublin especially it was intensified by a prolonged thaw during the early days of the period—in fact, masses of snow lay here and there even on Saturday, a week after the "blizzard" of the 12th. On Sunday and Monday the centre of the large and deep depression, which had caused the south-easterly gale and snowstorm, lay almost stationary over the Co. Kerry and the adjacent parts of the Atlantic. The wind remained in the S.E., except in Brittany and off the entrance to the English Channel, where it was south-westerly. Rain fell at most stations in variable amounts. In Dublin the precipitation was considerable, in consequence probably of a local chill caused by the melting snow. The depression moved southwards on Tuesday and then passed up St. George's Channel, crossing Wales and the North of England, and finally joining another depression off the North of Scotland on Thursday morning. From the time of its appearance on Friday, January 11, until it passed away on Friday, the 18th, this depression caused a rainfall of no less than 4.329 inches in the City of Dublin—this is nearly double the average January rainfall in Dublin—2.200 inches. Friday was fine and frosty, but at night the weather again became rainy, and Saturday was wet and gloomy in the extreme. In Dublin the mean atmospheric pressure was only 29.147 inches—the barometer remaining below 29 inches for as many as 98 hours—from 10 p.m. of Saturday, the 12th, until midnight of Wednesday, the 16th. The absolute minimum at this station was 28.733 inches at 7.30 a.m. of Monday (wind, S.E.).

The maximum pressure was 29·689 inches at 9 p.m. of Friday (wind, calm). The corrected mean temperature was 38·3°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 37·8°. On Tuesday and again on Saturday temperature rose to 42·7° in the screen; on Friday it fell to 31·0° in the screen, and to 25·2 on the grass. The rainfall was 1·928 inches on six days, ·960 inch being registered on Wednesday. Snow and hail fell on Sunday.

The weather during the week ended Saturday, the 26th, continued wintery and inclement as in past weeks. Polar winds prevailed, and blew strongly, as barometric gradients were at times very steep. Considerable quantities of cold rain, hail, and snow fell generally, and thunder and lightning, followed by a snowstorm, were reported from London on Wednesday forenoon. At the beginning of the week a depression lay near the mouth of the English Channel, and from this position it travelled south-eastwards across France, gradually filling up and finally dispersing. This disturbance brought copious falls of rain to England and the French shores of the Channel. Temperature also rose very decidedly but transitorily over the South of England—to 52° in London and 56° at Prawle Point on Sunday. In Scotland on that day the thermometer failed to read 40°, and in Ireland the highest reading was 44° in Dublin and at Roche's Point, Cork. From Tuesday onward the barometer remained very low in the North of Europe, and more or less serious secondary depressions passed in a south-easterly direction down the North Sea or across the British Islands. At 8 a.m. of Thursday the barometer read only 28·88 inches at Wick, but 29·72 inches at Valentia (Kerry). On Friday, a rush of intensely cold, dry polar air passed southwards over the United Kingdom, and dry powdery snow fell. On the morning of this day the thermometer read —16° F. at Haparanda, on the Gulf of Bothnia. In Dublin, the mean atmospheric pressure was 29·799 inches, the barometer ranging from 30·184 inches at 9 p.m. of Monday (wind, N.N.E.) to 29·207 inches at 12.45 p.m. of Thursday (wind, W.N.W.). The corrected mean temperature was 37·0°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 35·6°. On Tuesday, the screened thermometers rose to 44·8°—the maximum of this cold month; on Saturday they fell to 26·0°. The rainfall was ·291 inch, on six days, ·111 inch being measured on Wednesday. Hail fell on Monday, Thursday, and Friday; snow on Friday. The prevalent winds were N.E. and N.W.

Frequent changes from frost to thaw, and an almost uninterrupted prevalence of winds from polar quarters made the last days of the month very trying. The striking features of the period were the intensity of the cold in all parts of Western Europe from time to time and the sudden and unusual alterations of atmospheric pressure which occurred. On Sunday and Monday a chain of shallow barometric depressions stretched

from the Arctic Circle across Norway down the North Sea and across France to the Mediterranean. Fresh northerly winds blew in Scotland and Ireland, which lay to the west of the trough of low pressure, and snow and hail fell at intervals. On Sunday evening lightning was seen in Dublin, at Prawle Point, Devon, and in Jersey. On Monday night a shallow V-shaped depression advanced over Ireland from the Atlantic, causing a thaw and rain on Tuesday. This low-pressure system soon filled up, as an anticyclone of unusual intensity formed over the South of Scandinavia, where the barometer rose to 31.0 inches at 8 a.m. of Wednesday. The barometer remaining low in the Mediterranean basin, fresh easterly gales and bitter cold prevailed until the close of the month. Throughout the period large quantities of snow or sleet and hail fell in nearly all districts. In Dublin atmospheric pressure ranged between 29.809 inches at 9 a.m. of Sunday (wind, W.N.W.) and 30.630 inches at 7 p.m. of Wednesday (wind E.) On Monday the screened thermometers fell to 23.8°; on Tuesday they rose to 42.9°. The prevalent winds were N.W., E., and N.E. The rainfall (chiefly in the form of snow, sleet, and hail) was .162 inch on three days—.080 inch being measured on Thursday the 31st.

In Dublin the rainfall up to January 31, 1895, amounted to 5.711 inches on 24 days, compared with a twenty-five years' average (1865-1889) of 2.200 inches on 17.3 days.

At Knockdolian, Greystones, Co. Wicklow, 6.190 inches of rain fell on 19 days. The heaviest falls in 24 hours were 1.040 inches on the 12th, and .910 inch on the 16th.

At Cloneevin, Killiney, Co. Dublin, the rainfall was 5.980 inches on 24 days, 1.470 inches being measured on the 12th. This was the highest rainfall recorded at this station in January during the past 11 years. The average fall for the preceding 10 years was 2.019 inches on 16.6 days. Snow fell on the 1st, 2nd, 6th, 7th, 12th, 25th, and 31st. In 1894, the rainfall was 3.260 inches on 23 days.

SUNSTROKE IN NEW YORK.

THE deaths in 1890 were 62; in 1891, 95; in 1893, 43, and until July 26th of the past year, 40. In 1892, when there were 320 deaths, 29 occurred in June, 252 in July, and 39 in August. In each year two-thirds of the deaths occurred among males.—*Medical Record*.

MISUSE OF THE MAILS.

A FEW days ago one Hunter, an electric-pad-device man, was sentenced to the Penitentiary by the United States Court of Cincinnati for a misuse of the United States mail, on the ground that his scheme was to defraud the people by selling a useless device.—*Medical Record*.

PERISCOPE.

INDIAN MEDICAL CONGRESS.

THE Indian Medical Congress, which was opened by his Excellency the Viceroy of India, was held during the Christmas week, extending from the 24th to the 29th of December, 1894. All the Congress proceedings were conducted in St. Xavier's College, which was most generously lent to the members of the Congress by the Fathers of the College. This institution was admirably adapted for the purposes of the Congress. It has a large hall which accommodates 500 people; class-rooms which are very suitable for the sectional meetings; verandahs and rooms available for the exhibition of medicines, instruments, filters, wells, and sanitary appliances; a lawn for the establishment of a field hospital, one wing of which was kindly lent by the Government for exhibition; and lastly, there are extensive grounds on which shamianahs and tents were put up for refreshments and the social comforts of the visitors. St. Xavier's is well situated for an assembly such as that which gathered together on the 24th of December and the ensuing days of the Christmas week. It is centrally situated, and taps by tramways both Northern and Southern Calcutta, and is accordingly easy of access. Arrangements, we believe, were made with tramways to secure special accommodation for visitors to and from the Congress. The President's Address was delivered in the large hall of St. Xavier's College immediately after the Congress was opened by the Viceroy. The opening ceremony over, an adjournment was made for luncheon, and in the afternoon the Addresses in Medicine, Surgery, and Obstetrics were delivered by the Presidents in their respective sectional rooms. Tuesday being Christmas Day no work was done by the Congress. On Wednesday morning the Presidents in Public Health, Military Medicine, Medico-Legal Medicine, and Pharmacology opened their sections with Addresses, and after these the work of all the sections was proceeded with. The following is the list of the principal officers of the Congress:—
Presidents, Honorary Presidents—Surgeon-Major-General W. R. Rice, M.D., C.S.I., I.M.S.; Surgeon-Major-General A. F. Bradshaw, C.B., V.H.S., A.M.S. President of the Congress—Surgeon-Col. R. Harvey, M.D., F.R.C.P., D.S.O., V.H.S., I.M.S. Vice-Presidents of the Congress—Joggobundhu Bose, M.D.; Surjee Coomar Sarbadhicari, G.M.C.B. Medicine and Pathology—President: Surgeon-Lt.-Col. A. Crombie, M.D., I.M.S. (Bengal). Surgery, including Ophthalmology—President: Surgeon-Lt.-Col. E. Lawrie, M.B., M.R.C.S., I.M.S. (Hyderabad). Public Health—President: Surgeon-Major W.

G. King, M.B., C.M., D.P.H., I.M.S. (Madras). Military Medicine and Surgery—President: Surgeon-Colonel Gore, A.M.S. Obstetrics and Diseases of Women and Children—President: Surgeon-Major H. P. Dimmock, L.R.C.P., M.R.C.S., I.M.S. (Bombay). Medico-Legal Medicine and Insanity—President: Hon. W. R. Kynsey, C.M.G., F.R.C.P.I. (Ceylon). Pharmacology and Indigenous Drugs—Presidents: G. Watt, M.D., C.M., F.L.S., C.I.E.; Rai Kanai Lal Dey, Bahadur, G.M.C.B., C.I.E. Delegates to the Congress—Royal College of Physicians of Ireland: Brigade-Surgeon Charles Sibthorpe; Royal College of Surgeons, England: Dr. Durham; British Medical Association: Dr. Ernest Hart; Cambridge University: Professor Hankin; Aberdeen University: Professor Reid; Glasgow University: Brigade-Surgeon-Lt.-Col. A. H. Arnott; Madras Municipality: Dr. J. Nelld Cook; Ceylon Government: Dr. Kynsey, Dr. MacDonald, Dr. Garvin; French Government: Dr. Gallay. The *Lancet* was also represented. The following attracted the interested attention of the visitors:—Medical Institutions in Calcutta: The Medical College Hospital, the Ezra Hospital, the Eden Hospital, the General Hospital, the Military Station Hospital, the Campbell Hospital, Lady Dufferin Zenana Hospital, the Mayo Hospital, Out-door Dispensaries, Lunatic Asylum, the Leper Asylum. Many places of interest in and near Calcutta were visited, such as the Town Hall, the Indian Museum, Fort William, the High Court, the Treasury Buildings, the site of Black Hole of Calcutta (Post Office), the Bank of Bengal, the Metcalfe Hall, the Kidderpore Docks, the Zoological Gardens, the Botanical Gardens, Barrackpore Park, and the Hooghly Bridge.

EARLY PARTURITION.

La Presse Médicale quotes from *Archiv. für Gynæk.* some conclusions relating to parturition under twenty, founded on P. Muller's experience at Berne, from 1872 to 1891. Of 6,126 women delivered, 493 were under twenty years of age. Narrowness of the pelvis in all dimensions, due to incomplete development of the bones, was more common; vertex and face presentations were more frequent, breech presentations more rare, than in other cases; the average duration of labour was longer, by two to three hours, than in older women; eclampsia, uterine inertia, necessity for the use of forceps, were not more common; craniotomy was more often necessary, on account of contracted pelvis; perineal rupture less frequent, as much on account of the necessity for operative enlargement of the vulvar orifice (as a preventive) as on account of the elasticity of the tissues; more girls than boys were born; the size of the children was smaller in proportion to the youth of the mothers; premature confinement was more common; the children were as viable as those of older mothers. The mortality was 1.01 per cent.

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MEDICAL SCIENCE.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. XII.—*Leucorrhœa: its Causes, Varieties, and Treatment.**

By THOMAS MORE MADDEN, M.D., F.R.C.S. Ed.; Obstetric Physician and Gynæcologist, Mater Misericordiæ Hospital; Consultant, the Children's Hospital; Consultant and ex-Master, National Lying-in Hospital, Dublin; Examiner, Conjoint Board Royal College of Surgeons and Apothecaries' Hall, Ireland, &c.

THE subject of the present communication, trite as it may seem, is well deserving of fuller consideration than is generally accorded to it by modern gynæcological authorities. In a large proportion of instances the first symptom that directs the attention of patients to the most common forms of diseases peculiar to women is leucorrhœa, or, in other words, some abnormal mucoid exudation from the genital canal. Such discharges, although obviously symptomatic, are frequently so prominent a feature of these cases, or are so obscure in their causation, so far-reaching in their consequences, or so intractable in their management, as to occasion no small a part of the diagnostic and therapeutic difficulties encountered in this special branch of practice.

It may, therefore, be not altogether useless to review briefly, from the stand-point of a somewhat extended clinical experience, our knowledge of the general pathology of leucorrhœa, the circumstances from which this originates, the results it occasionally produces, and the methods available for its treatment.

* Read before the Section of Obstetrics of the Royal Academy of Medicine in Ireland, on Friday, March 1st, 1895.

Under the term leucorrhœa I shall here include all those mucoid exudations containing elements foreign to healthy mucus that may proceed from the lining membrane of any portion of the female genital tract. These discharges are commonly classified in accordance either with their special cause, or from their primary location. The latter arrangement, although open to the objection that this complaint seldom remains permanently confined to its starting point, and also that its characteristics, consequences, and treatment are influenced, not alone by its situation, but, moreover, by the special exciting cause of the discharge, and by the constitutional condition of the patient in each instance, is nevertheless probably as good as any other that can be suggested, and hence will be followed in the subsequent observations, in the course of which the vulvar, vaginal, uterine, and tubal forms of leucorrhœa must be separately discussed.

Before so doing, however, I may premise that mere blenorrhœa, or simple hypersecretion of the mucus—containing no morphological elements besides detached epithelial cells and mucous corpuscles—normally secreted by the genital lining membrane does not come within the purview of my remarks on leucorrhœa, although it is so included by other writers. Irrespectively of any pathological conditions that natural secretion of mucus may physiologically be increased by local hyperæmia consequent on ovulation or pregnancy. Moreover, its normal amount bears a constant relation to other circumstances, being greatest during the epochs of reproductive activity and in married life; and, on the other hand, being smallest in quantity before the period of puberty, and again in advanced age when the vaginal rugæ become comparatively bloodless or obliterated, and when, also, the uterus and its adnexa generally undergo a more or less marked process of senile atrophy.

I. VULVAR LEUCORRHŒA.

In reference to leucorrhœal discharges from the labia, nymphæ, and adjoining parts within the vulvar area or in immediate vicinity, it may be observed that not only are these mucous surfaces peculiarly exposed to the external or catarrhal, infective, and traumatic causes of local inflammation resulting in exudations, but also in the contiguous glandular structures present a fertile field for their development and extension. For instance, the vulvo-vaginal or Bartholinian glands in the deep fascia on either side of the vaginal orifice are, together with their afferent

ducts opening at the side of the nymphæ, liable to inflammation, often resulting in abscess or in cystic disease, one of the first symptoms of which is an excessive and vitiated mucoid exudation.

The most common causes of vulvar leucorrhœa are, with one exception, especially exemplified in pediatric practice. Thus, in the Children's Hospital, Dublin, with which I have been connected for the past twenty-three years, I have had occasion, as I pointed out in some lectures published in 1886, and again in my recent "Handbook of Diseases of Women," to notice the great frequency and importance of leucorrhœa in children of all ages from infancy up to puberty. Moreover, such discharges may possibly become of medico-legal as well as therapeutic interest, as I have seen in several instances where I have been called on to give medical evidence in reference to charges arising from this occurrence.

As, however, the practical importance of vulvar leucorrhœa in childhood does not appear to be sufficiently recognised, I would commend the following remarks of Dr. Keating, of Philadelphia, to the careful consideration of those who have to deal with such cases:—"The catarrhs of infancy, which may result from cold, pent up secretions, want of cleanliness, &c., act on the mucous lining of the uterus, as they do on that of the nasal passage, producing congestion, infiltration, and finally stenosis of the passages. The effect this has upon the uterus is to congest it, to obstruct its canal, and to increase its weight, and undoubtedly not a few of the uterine flexions and versions, with their many symptoms, including dysmenorrhœa, that attend puberty or follow it, owe their origin to this cause. . . . Every mother should be taught that no child should have protracted leucorrhœa—that it is a pathological condition, and needs the immediate attention of the physician."*

Nor are the effects of neglected vulvar leucorrhœa limited to those above-mentioned, for, as another American authority, Dr. Currier, has pointed out, although either vulvitis or vaginitis may exist alone, more frequently the infectious disease which begins with the vulva does not end there, but may extend to the uterus, the Fallopian tubes, the ovaries, and the peritoneum, and therefore, as he adds, it seems extremely probable that many of the deformed and undeveloped uteri, with which are associated so much

* Leucorrhœa. *Cyclopædia of Diseases of Children*. Edited by John M. Keating, M.D. Vol. III, p. 716. Philadelphia: 1890.

dysmenorrhœa and anguish, sterility and domestic unhappiness, are the legitimate consequences of vulvo-vaginitis in early life.

Ætiology.—Of all the causes of vulvar leucorrhœa one of the most important in childhood is a constitutional strumous taint, the local influence of which is often as obvious in this complaint as in the chronic glandular affections of children of that diathesis. Next in frequency in the causation of such discharges at all ages, but more especially in the ill-cared children of the poor who have come before me in the extern departments of the hospitals to which I have been attached, is the too common neglect of that attention to the cleanliness of the genitalia which is essential to their sanitary integrity. In other instances, vulvar leucorrhœa is consequent on local irritation traceable to ascarides. Still more frequently, in young and old alike, it presents a catarrhal form following exposure to cold or wet, or it may result from direct injury to the parts as well as from any other cause of vulvar inflammation, whether non-infective or specific—*i.e.*, gonorrhœal or syphilitic.

Symptoms.—Reserving the last-mentioned, or specific forms of leucorrhœa for subsequent consideration, the ordinary symptoms of pudendal inflammation, leading to mucoid discharges from the vulva, are briefly—a sense of fulness, or discomfort in the external genitalia, together with a hyperæmic tumefaction of the vulvar mucous membrane, followed by the exudation of a discharge, which from the first is generally much more viscid and tenacious than in the vaginal forms of the complaint. In many instances the pudendal orifice is so glued together by this discharge as to cause considerable pain and difficulty in micturition.

Treatment.—A primary point to be attended to throughout the treatment of vulvar leucorrhœa is to secure, as far as possible, the asepsis of the affected surface by the frequent use of warm antiseptic lotions—such as boric acid, 1 in 25; izal, 1 in 100; lysol, 1 in 100, or corrosive sublimate, 1 in 2,000—so as to sterilise and to cleanse the parts as thoroughly as practicable from the abnormal exudations, which, when allowed to accumulate there, are liable to become decomposed, and thus not only increase the local irritation, but also furnish a medium for the reception and development of pathogenic micro-organisms, by which the entire genital tract may be speedily infected.

Without entering in detail on so wide a question as the causes, immediate or predisposing, of the hyperæmic and other conditions

of the vulva that may give rise to leucorrhœal discharges therefrom, and the recognition and treatment of which is essential to their cure, it will, perhaps, suffice to say that, in cases of ordinary catarrhal and simple inflammatory mucoid discharges from the lower segment of the genital tract, these exudations may, generally speaking, be arrested either by the application to the vulvar mucous surface, by the insufflator, of non-irritating, dry, antiseptic, astringent agents (such as loretin and salol), or by the topical employment of boro-glycerine, and glycerine of carbolic acid; or, and oftentimes no less effectually, by some of the older-fashioned ordinary local astringents, such as a strong (*i.e.*, 3ii. to the 3i.) solution of nitrate of silver. In the interval between these applications the parts should be kept well separated by creolin gauze (10 per cent.), saturated with dilute liquor plumbi, or hazeline, until the discharge has completely subsided. During this local treatment the patient, if we wish to effect a speedy and permanent cure of acute vulvar leucorrhœa, should be restricted to bed, and, after free purgation, be put on a light, nutritious dietary. Even in the chronic forms of this complaint these measures are frequently no less advisable, in conjunction with the addition of any tonic or other remedy that may be specially indicated by the existence of the strumous, chlorotic, anæmic, or other constitutional cachexiæ, one or other of which are so generally associated with chronic vulvar leucorrhœal discharges, and by which, in not a few instances, they may be produced or kept up.

II. VAGINAL LEUCORRHOEA.

Whilst as already observed leucorrhœa, if neglected, sooner or later travels far beyond its primary seat, nevertheless, in many instances this process of invasion is indefinitely protracted, and for a time at least the complaint remains localised, and evinces distinctive features consequent on the structural and physiological characteristics of its starting-point. Thus, for instance, leucorrhœal discharges from the mucous membrane of the lower portions of the vagina are generally less viscid than those proceeding either from the vulva or from the upper part of that canal, or still more, those from the cervix. From the latter vaginal mucoid exudations further differ, not only in their acid reaction, but also in that peculiar opalescent yellowish-white, creamy colour to which the disease owes its popular name—"the whites." This distinctive appearance is obviously

due as much to the larger proportion of albuminous constituents, both in solution and in suspended flocculi of coagulated albumin, which such vaginal secretions contain, as to the presence therein (as was originally demonstrated by the late Dr. Tyler Smith, to whose exhaustive and too seldom acknowledged researches on this subject subsequent writers owe much) of innumerable scaly epithelial cells, and fatty *débris* with which, as the disease progresses, genuine pus corpuscles and blood discs may eventually be interspersed.

On the other hand, those yet more opaque, semi-solid, curdy exudations, frequently observable in the upper portion of the vagina, generally result from the admixture there of its acid secretions with the alkaline cervical discharges, and the consequent firm coagulation and ultimate local adhesion of their albuminous constituents. In this way the vaginal walls may become so densely encrusted by pseudo-membranous-looking exudations as to produce those appearances which some authorities have, as I think erroneously, ascribed to croupous, or diphtheritic vaginal disease.

Ætiology of Vaginal Leucorrhœa.—The causes of this condition include all the forms of local irritation to which the genital canal is liable, such as the following:—(1) catarrhal and (2) strumous inflammation of the vagina, (3) follicular vaginitis, (4) specific, and more especially gonorrhœal, infection, (5) neglect of cleanliness, (6) irritation from worms, (7) vaginal tumours, (8) congestion resulting from uterine displacements, (9) mechanical injuries, (10) over-stimulation of the parts, as frequently evinced in newly-married patients. Vaginal leucorrhœa may also arise—(11) from the extension of uterine, tubal, ovarian, or pelvic disease; or (12) from the genital hyperæmia attending the latter months of pregnancy; or (13) from the topical congestion ushering in the catamenial epochs, or consequent on the menopause. Moreover, independently of any local lesion leucorrhœal discharges may—(14) be vicarious of menstruation; or (15) be consequent on arrested lactation; or (16) be due to metastasis of remote disorders; and lastly (17), they may be the result of constitutional debility, however occasioned, giving rise to impaired tonicity of the vaginal mucous surface, and consequent hypersecretion therefrom.

III. VAGINAL LEUCORRHŒA FROM INFLAMMATORY LESIONS.

Although the causes of leucorrhœa are so many-sided, as is indicated in the foregoing list—which might be extended—it will suffice

here to refer chiefly to the more important of the inflammatory, or sub-inflammatory conditions that commonly give rise to that discharge. Amongst these are—1st, catarrhal and simple local inflammation; 2nd, infective or gonorrhœal; 3rd, strumous; and 4th, follicular vulvitis. In not a few instances, however, it will be found practically impossible to distinguish between the former—all of which, if unchecked, may eventuate in the last-named or follicular type of the disease.

Symptoms.—Vaginal leucorrhœa, from any of these inflammatory lesions, is generally preceded by a sense of heat and irritation in the affected mucous surface, which at the same time is tumefied and dry, until this hyperæmia becomes relieved by more or less profuse leucorrhœal exudations from the inflamed membrane. On local examination the calibre of the canal will now be found diminished, owing to the congestive tumefaction of its walls, and the vaginal mucous membrane highly vascular in aspect, when freed from the tenacious and possibly muco-purulent discharge by which it is coated, and by which are overlaid the mucous follicles (ultimately eroded, hypertrophied, and dotted over with clusters of proliferating mucous papillæ). This condition, which may endure for an indefinitely protracted period, is very generally present in cases of long-standing vaginal leucorrhœa, and is then commonly connected, whether as cause or effect, with some form or other of chronic uterine, peri-uterine, tubal, or ovarian complaint.

Diagnosis.—The differentiation of gonorrhœal from non-specific inflammatory exudations from the vaginal mucous membrane, is a matter of great importance, and often of much difficulty. In both instances the extending local inflammation may give rise to discharges from the mucosa of the urethra and bladder as well as from the vulvo-vaginal surface, which can be distinguished only by the recognition of the gonococci of Neisser in the former class of cases. Frequently, however, this test is not practically available; nor is it always reliable, as that gonococcus is not invariably discoverable with certainty, at least by immediate microscopic examination, in gonorrhœal discharges, whilst, as Parrish and Baldy have pointed out, occasionally other micro-organisms, apparently morphologically identical with gonococci, are found which can be distinguished only by an expert. Moreover, as they add, “the disciples of Neisser have by no means satisfactorily proven that the gonococcus is the cause of gonorrhœa.” Under these circumstances, as a rule, our diagnosis must

be grounded on the probabilities and history rather than on the immediate pathological evidences, or on the symptoms of the complaint. It should hardly be necessary, therefore, in this connection, to observe that in cases such as these, in which a patient's reputation or domestic happiness may be involved in the question now referred to, our opinions cannot be too carefully considered or too cautiously expressed.

Complications.—Vaginal leucorrhœa, whatever its origin, as before said, invariably tends to extension to the contiguous mucosa, and hence urethritis, vulvitis, and cervicitis—often resulting in dysmenorrhœa and sterility—are daily observed in cases of this kind. Moreover, the specifically infective forms of vaginal exudation, if neglected, frequently lead either to endo-uterine disease or to graver tubal complications, such as salpingitis and pyosalpinx; or may eventuate in pelvic cellulitis and other inflammatory lesions of the pelvic connective and serous tissues.

Treatment.—In whichever of the above described forms leucorrhœal discharges from the vaginal walls present themselves, the principles on which they should be treated are essentially similar, and in none of them can the *nimia diligentia medici* be safely acted on. In most instances the obvious therapeutic indication is the abatement of that local hyperæmia on which the exudation is consequent, and this can be accomplished only by the removal of its immediate exciting cause, and by the cleansing away as far as possible and, if necessary, the sterilisation of the discharge. With these objects, should the origin of the complaint be gonorrhœal or other specific infection, effective germicidal agents such as 1 in 2,000 solution of bichloride of mercury, or creolin (1 in 200) should be freely applied locally; whilst in the majority of other cases of vaginal leucorrhœa of catarrhal and inflammatory causation, all that need be locally employed in the initial stage of the complaint is the frequent and abundant use of hot water followed by weak lead lotion, dilute solution of fluid extract of hydrastis Canadensis, or any other soothing vaginal irrigation.

As soon, however, as the acute inflammatory condition of the vaginal mucous membrane commonly connected with the commencement of leucorrhœa has subsided, or where it does not exist, and when the exudation has become well established, the local employment of ichthyol in the form of a 10 per cent. ointment may prove remarkably effectual, as I found in several instances, in arresting vaginal discharges, and removing the chronic inflammatory con-

ditions with which they may be connected. This remedy is, however, so malodorous and messy in its use, as to prevent its general adoption. The ordinary necessary local astringent and antiseptic applications, such as boric acid and sabol, may more commonly, therefore, be best employed in the way of the so-called "dry treatment" with the aid of the vaginal insufflator, by which I generally direct a powder consisting of equal parts of boric acid and alum, or iron-alum, to be introduced into the vagina daily until the discharge becomes checked. More recently, I have similarly employed, though in smaller quantities, vaginal insufflations of loletin—a comparatively new dusting application which Messrs. Burroughs and Wellcome brought under my notice last year, and which I have since then tested in several cases in my hospital. So far as I have been thus enabled to form an opinion, this agent, which apparently possesses many of the surgical uses of iodoform, whilst devoid of its offensive odour and toxic properties, would seem especially servicable in the local treatment of muco-purulent and foetid leucorrhœal vaginal discharges. Before the employment of any of these insufflations, the vagina should on each occasion be well flushed out with a carbolised or other antiseptic injection (temp. 110°).

In a few otherwise intractable cases of chronic vaginal leucorrhœa, I have experienced special benefit from the local use of a mixture of one part of glycerine of carbolic acid with four of glycerine of tannin, applied by means of a saturated tampon introduced through the speculum, on the removal of which the tampon should be retained for some time so as to bring the contracting vaginal walls in contact with the expressed astringent. In one instance my assistant, by accident, saturated the cotton wool with pure carbolic acid, nor was this discovered until the vaginal surface was observed to become whitened and shrivelled up. The vaginal surface was then washed out with an alkaline injection, and the patient remained unconscious of the mistake that had occurred. Some days subsequently a complete cast of the vaginal mucous membrane was thrown off, the result being a permanent cure of the pre-existing vaginitis, and consequent leucorrhœa. This method of treatment, I need hardly say, however, is not here mentioned as one to be generally adopted in such instances, in few, if any, of which will any other local remedies than those above recommended be found necessary.

IV. VAGINAL LEUCORRHOEA OF PREGNANCY.

The physiological hyperæmia of the genital tract consequent on utero-gestation, commonly gives rise to hypersecretion of vaginal mucus. This being a symptom rather than a disease of pregnancy, generally calls for nothing more than proper attention to local cleanliness by the free use of warm water and coal tar or carbolic soap, or possibly the occasional employment of vaginal insufflations with boric acid. In some instances, however, the exudation is of thicker consistence, creamy, or yellowish in colour, and distinctly muco-purulent, giving rise to intense pruritus of the pudendum, especially in the latter months of pregnancy. This discharge may be confounded with that resulting from gonorrhœal infection from which it must be differentiated as before described. Moreover, as Dr. Leishman observed, when due simply to pregnancy, even the most profuse discharges rapidly disappear after delivery, and seldom attract any notice after the lochia have ceased to flow. Cases, however, occasionally occur in which such a discharge, originally appearing during pregnancy, lasts during the convalescence after labour, and ends in an obstinate and troublesome vaginal leucorrhœa. The treatment of this affection must necessarily be confined within certain limits, so that sometimes palliation is the most we can hope for. Cauterants, or strong injections, cannot be employed, lest they should induce premature labour, and even the simplest injections must, if used, be employed with the greatest possible caution, as it is well known that repeated injections, even of tepid water, will often suffice to induce uterine contractions.*

In cases of this kind I have myself almost always found constitutional treatment, and more especially the exhibition of iron and quinine or other tonics, no less necessary and serviceable than that mere attention to vulvo-vaginal cleanliness, which, together with astringent lotions and suppositories, is more commonly relied on.

Leucorrhœal discharges in the last months of pregnancy are especially prone to occasion great irritation or even erosion of the external genitalia, and for the relief of such cases of pruritus, in addition to the ordinarily employed local sedatives, I would again strongly recommend a fair trial of the methylene blue solution, which I recently suggested^b as one of the best of all topical analgesics in pruritic affections of the pudendum generally.

* *Vide* Leishman. *System of Midwifery*. Vol. I., p. 269.

^b *Vide* *British Medical Journal*, January 19th, 1895.

V. VAGINAL LEUCORRHOEA OF CONSTITUTIONAL CAUSATION.

Apart from any of the before-mentioned direct local sources of local irritation or hyperæmia, the secretions of the vaginal and uterine mucous surfaces may be abnormally augmented and altered by various constitutional causes, as is observed in patients of well-marked strumous diathesis, in whom abundant glairy exudations from the genital mucosa are hardly less common than the similar looking catarrhal discharges from the naso-pharyngeal surfaces and glands of scrofulous subjects. In like manner the importance of a constitutional factor in leucorrhœal cases is also apparent in females suffering from chlorosis, anæmia and other forms of debility, and in whom blenorragic vaginal hypersecretions that cannot be traced to any local lesion, and evidently consequent on general impairment of vascular tonicity, are so often noticed. In other instances, again, the constitutional cause of leucorrhœa is proven by its occurrence as a direct consequence of arrested lactation, or as a metastasis of gouty or rheumatic disorders. Still more obvious in this connection is the so-called amenorrhœal form of leucorrhœa, in which we find the suppression of menstruation attended by more or less profuse non-hæmorrhagic discharges from the vagina and endo-metrium.

VI. CERVICAL LEUCORRHOEA.

Of the many factors concerned in the ætiology of leucorrhœa, none are of greater importance or more frequent occurrence than the various lesions, catarrhal, inflammatory, traumatic, hyperplastic, infective and malignant, by any of which, as well as by constitutional conditions, the glandular structures or mucous surfaces of the cervix uteri may be so implicated as to give rise to morbid exudations therefrom. It being impossible, however, within my present limits to refer in detail to all these different causes of cervical leucorrhœa, I must here confine myself to some observations on the general characteristics and treatment of the non-specific discharges most commonly thus occasioned.

General Ætiology of Cervical Leucorrhœa.—These exudations consist primarily of a hypersecretion of the bland crystalline mucus, which is normally evolved from the muciparous follicles and epithelial surfaces of the rugous portion of the cervical canal. This, under pathological conditions, becomes gradually altered in character as well as in quantity, and eventuates in that viscid glutinous or bird-lime like discharge, frequently acrid in alkalinity,

which may be seen coating the gaping lips of a lacerated cervix in instances of chronic cicatricial ectropium, or extruding from the os uteri in cases of endo-cervicitis. If traced further up, that exudation will then be found, as was clearly described by Tyler Smith, adhering closely to the cervical crypts and rugæ, so as to fill the canal, and consisting chiefly of mucous corpuscles, oil globules, dentated epithelial cells, with which are also not infrequently found blood discs and pus corpuscles, enveloped in a thick transparent plasma, closely resembling raw white of egg, remarkable for its tenacity, alkaline in its reaction, and thus contrasting distinctly with the thin acid secretions of the vaginal mucous membrane.

Sources of Cervical Leucorrhœa.—These exudations may originate either from the sinous fossæ lined with cylindrical epithelium, between the plicæ palmatæ on the anterior and posterior walls of the cervix, which may be regarded as the secretory organs of the normal viscid crystalline mucus of the cervical canal, or from the so-called ovula Nabothi in the same region. The latter vesicles, composed of connective tissue and cylindrical epithelium, may, perhaps, like the Graafian follicles, be regarded as closed glandular vesicles, bursting periodically, though possibly, as Kölliker observed, they “are nothing more than dilated and closed mucous follicles, and in part also pathological new formations.” Be this as it may, however, the muciparous follicles, closed and open, which are normally the sources of the healthy cervical mucus, undergo a periodical enlargement and increase of secretory activity in connection with ovulation, and more especially manifest during pregnancy, when they secrete that mucous plug by which the cervical canal is then closed.

Consequences of Cervical Leucorrhœa.—Under normal conditions the crystalline cervical mucus not merely acts as the natural lubricant of the canal, but, moreover, serves, in the interval of the catamenia, as a block by which the entrance to the uterine cavity is guarded against the admission of pathogenic germs, and also as a suitable medium for the passage of spermatozoa into the uterus, as well as a seal to its orifice during pregnancy. All these functions are impaired or destroyed when that secretion becomes abnormal or leucorrhœal, a condition which even in its most simple form must not only constitute a more or less serious constitutional drain, occasioning impairment of the patient's general condition, but also prove a likely focus of infective disease from the possibility

of septic changes in the vitiated and adherent discharges. Moreover these exudations, especially when their morphological elements, their viscosity and alkalinity are most distinctly abnormal, are of direct pathological moment as frequent sources of irritation and erosion of the cervix, and above all are of special interest in reference to the causation of sterility. The latter point is one of great practical and often neglected importance in connection with the treatment of barrenness. In such cases it very frequently happens that operative measures to overcome supposed stenosis might be dispensed with if the circumstances, first clearly pointed out by Marion Sims, that probably the most common cause of sterility is an abnormal condition of the cervical secretions, was sufficiently recognised. That effect may be produced, either mechanically, by the calibre of the canal being so completely filled by the unduly viscid mucus as to interpose an insuperable barrier to conception, or chemically, by its being so hyper-alkaline and acrid as to occasion the immediate destruction of the spermatozoa. This fact has been abundantly confirmed by my own clinical experience of numerous cases in which the cure of sterility was effected by the thorough curetting of the cervical canal, so as to destroy the diseased secretory surface, as well as to clear the passage from the mechanical obstacles presented by its morbid exudations.

Treatment.—In reference to the general pathology and therapeutics of the conditions leading to cervical leucorrhœa, I may observe that, in the old "Dublin Obstetrical Transactions," upwards of twenty years ago, I pointed out their common connection with constitutional, and more especially with strumous diseases, and urged the consequent importance of conjoining constitutional treatment with whatever local measures might be necessary in such cases. In a more recent work* I again endeavoured to enforce this still neglected truth, in which, however, I have since discovered that I had been anticipated by the late Dr. Tyler Smith, to some of whose views on the ætiology of leucorrhœa I have already referred. As Dr. Tyler Smith was one of the first and ablest exponents of the importance of constitutional treatment in leucorrhœal cases, and as his papers in the *Lancet* on leucorrhœa, though republished in his work on that subject five years subsequently, are probably not familiar

* *Vide Clinical Gynæcology: a Handbook of Diseases Peculiar to Women*, by T. More Madden, p. 148. London and Philadelphia. 1894.

to many at the present day, his remarks on this point may be here very briefly summarised. The glandular structures of the parts, he says, whence the discharge arises points to the influence of constitutional causes, and exemplifies why this affection should be so common in women of strumous habit and leuco-phlegmatic temperament. Moreover, it vindicates the importance of constitutional treatment, and directs attention to the more rational employment of topical remedies, it being evident that, although leucorrhœa of the cervical canal is sometimes cured by the use of caustics to the os uteri, in these cases they act as counter-irritants to the glandular structure. The indications of treatment, based on a knowledge of the minute anatomy of the os and cervix uteri, and the study of its pathology in leucorrhœa, show the importance of combining constitutional medicines and regimen with local applications, which, to be of any use in cervical leucorrhœa, should be applied, not to the vagina, or to the os uteri, but to the canal of the cervix.*

The latter object may, I think, be most readily and effectively carried out by the employment of the curette, and for this purpose I have found Duke's dull-wire cervical curette most useful in the thorough removal of that viscid, tenacious discharge by which the canal is blocked in cases of cervical leucorrhœa, without any risk of too deep a denudation of the walls of the passage. Before employing this or any other curette, however, I generally find it advisable to dilate the canal freely by the two-bladed dilator which I have shown here on previous occasions; and, in my practice, immediately after curettage, the denuded endo-cervical surface is brushed over with iodised phenol, the patency of the passage being subsequently maintained by the use of salol bougies.

Such local measures should, generally speaking, as before observed, be conjoined with constitutional treatment, and more especially those remedies specially indicated by the strumous diathesis so frequently noticeable in patients suffering from chronic leucorrhœal discharges. Without again enlarging on this point, it may be enough here to say that in the way of general treatment, in the majority of these cases, the physician must rely chiefly on those ferruginous tonics—such as iodide, phosphite, or hypo-phosphite of iron—which, with mineral acids, quinine, cod-liver oil, and maltine, or malt preparations, are—in

* *Vide* Tyler Smith on Leucorrhœa, *Lancet*, July 7th, 1852.

conjunction with suitable hygienic and dietetic measures—his ordinary resources in all strumous disorders. The only drug which would appear to me to have anything like a special or even a commonly remedial effect in ordinary chronic leucorrhœal cases is arsenic and its combinations, such as Donovan's solution, from which, when administered in small and long-continued doses, I have unquestionably experienced much benefit in the treatment of many cases of this kind.

The extent to which this paper has reached precludes my trespassing further on your patience by now reading the observations I had prepared on the endo-corporeal, fundal, and tubal forms of leucorrhœa on which I have not yet touched. These remarks I may, in conclusion, however, venture to express a hope of being permitted hereafter to submit to the Academy.

ART. XIII.—*A Critical Review of Twenty-two Consecutive Abdominal Operations, with Two Deaths.* By JOHN CAMPBELL, F.R.C.S. Eng.; M.A., M.D., M.Ch., M.A.O. Royal Univ. Irel.; Surgeon to the Samaritan Hospital for Women, Belfast.

MY paper on the "Surgical Treatment of Laceration of the Cervix Uteri," which was postponed from the last meeting, was written to follow the one read by my friend, Dr. M'Kisack, on the "Treatment of Chronic Metritis," and is not, therefore, well adapted for separate consideration. With your kind permission I would like to substitute for it a "Critical Review of Twenty-two Consecutive Abdominal Operations, with Two Deaths."

During the past two years it has fallen to my lot to perform 22 operations, which involved the opening of the peritoneal cavity, and I now venture to bring before you some ideas which have been forced upon my notice during the treatment of these cases. I have grouped my operations under six heads, namely—

- I. Removal of Ovarian Cysts.
- II. Removal of the Uterus for Myomata by Abdominal Hysterectomy.
- III. Removal of the Uterus for Cancer by Vaginal Hysterectomy.
- IV. Operations on the Bowel.
- V. Laparotomy in a Case of Cancer of the Great Omentum.
- VI. Laparotomy in a Case of Cancer of the Stomach.

* Read before the Ulster Medical Society on March 1st, 1895.

I. OVARIAN TUMOURS.

In 14 cases cystic tumours of the ovaries were dealt with, and in 3 of these there was disease on both sides. Double ovariectomy was, however, done in only two cases, as in the third case the cysts in the second ovary were destroyed by ignipuncture. In this connection I would call attention to the value of *Ignipuncture* in disease of the ovaries. It can be applied not only to cases of small cysts, but also to those intractable examples of chronic ovaritis for which the only cure hitherto practised in this country has been removal. Ignipuncture consists in exposing the ovary by abdominal section, and stabbing it in as many places as may seem desirable with the fine point of Paquelin's cautery. It possesses the great advantage that it can hardly be looked upon as a mutilation since menstruation is unaffected by it, while in suitable cases it is as efficacious as the more radical operation. My patient was thirty years of age; she had a moderate-sized cyst of the left ovary, which was removed, and two small ones in the right, which were destroyed by the cautery. Menstruation went on as usual after operation. I believe this is the first ignipuncture of the ovary that has been done here. Dr. Pozzi, of Paris, showed me two patients who had undergone similar operations, and who had both subsequently borne children. The risk is less than that of removal of the appendages.

The Pedicle.—In 12 operations the pedicle was secured by Tait's "Stafford knot," which is undoubtedly the most expeditious method of ligature, and is quite safe for ordinary cases. In one of these 12 cases it slipped owing to shortness of the pedicle, and a second ligature had to be applied. This was followed by slight febrile reaction and by exudation about the stump, which gave some uneasiness during convalescence, though the patient ultimately did well. This experience taught me that under two circumstances at least the Stafford knot is not to be trusted—viz. (1), when the pedicle is very short, and (2) when it is very broad. Consequently, in two cases I used chain ligatures. In one of them the cyst had penetrated between the layers of broad ligament, and lay against the uterine wall, and its removal necessitated removal of the left horn of the uterus. Here I applied five points of interlocking ligature, and in addition put in several overcast stitches along the cut edge of the stump. In the other case the pedicle was broad, and was secured by three interlocking ligatures as well as by a

few overcast stitches. In all cases ligatures and stitches for intra-peritoneal use were of silk, which had been well boiled previous to the operation.

Adhesions were present in eight cases, and in four instances proved very troublesome. In one of these the difficulty was to separate the tumour from the colon. In the other cases hæmorrhage, subsequent to the separation of adhesions, was the chief cause for anxiety, and in them the following methods of treatment were adopted:—In one case separation was abandoned and the cyst drained, as the bleeding threatened to prove too much for a patient already suffering from lung disease and a tumour of malignant aspect. In another case the Mikulicz tampon was used. It consists of a bag of sterilised gauze placed in the pelvis and filled with strips of gauze, the ends of which project through the abdominal wound. The strips are withdrawn in order during the first 48 hours, and finally the bag itself is removed. In the case in question it proved effective as far as hæmorrhage was concerned, but as the abdomen had been contaminated with purulent cystic fluid, the patient sank in four days. In future cases of this kind I shall rely on thorough flushing, followed by the free application of perchloride of iron to the bleeding surfaces and the use of a drainage tube, since this method proved effectual in the third case of hæmorrhage.

Adhesions in the abdomen proper are a source of comparatively little anxiety. Bleeding points are there accessible, and hæmorrhage can be controlled by hot water, or pressure, or ligature, or stitching. Adhesions in the pelvis, however, are always formidable. Hot water or pressure may control bleeding from the slighter forms. Ligature and stitching are mostly impracticable, because the parts cannot be easily reached, and a large vein or the ureter may be wounded. Hence, for severe hæmorrhage from an extensive surface in the pelvis, I would advocate the free application of perchloride of iron, preceded by flushing and drying, and followed by drainage.

Drainage should be used under two conditions—(1) whenever there is risk of hæmorrhage, and (2) when flushing has been required, especially in patients over fifty. Young patients, in whom the abdomen has been flushed merely for the removal of blood-clot, may do without drainage, as the power of absorption is great; but where pus has escaped, drainage should be employed both for young and old. The glass tube is the best means.

Suture of the Abdominal Wound.—Interrupted sutures, applied to the whole thickness of the abdominal wall, seem to give as good results as the more elaborate plans of union by layers, and can certainly be more quickly put in. Silkworm gut, which has been boiled immediately before operation, is by far the best material.

After-treatment.—No food by the mouth for at least 30 hours, and opening the bowels within 60 hours, are, in my opinion, the secrets of success. Glycerine enemata are often valuable adjuncts to the other means of getting the bowels to move.

Results.—Of the 14 cases 12 were cured, 1 was relieved by incision and drainage, and 1 died. As no patient who presented herself with an ovarian tumour was refused operation, these figures may be regarded, as far as they go, as showing what the average amount of success is likely to be. The fact that the removal of an ovarian cyst, if successful, rescues the patient from certain and early death, makes the operation one of the most gratifying in the whole domain of surgery.

II. UTERINE FIBRO-MYOMATA.

The series includes two cases of abdominal hysterectomy for fibroid tumours. In the first case a grave complication existed in the form of a large cystic tumour of the right broad ligament, which required enucleation. The fibroid itself occupied the fundus uteri, so that I was able to amputate all diseased tissue by cutting through the uterus in its upper third. Both ovaries and a large portion of both tubes were left. The patient made a perfect recovery. For some months at each menstrual period a few drops of clear fluid oozed through a small opening at the lower end of the wound, and probably came from the uterine cavity. In the second case amputation was done at the level of the internal os, so that the whole corpus uteri was taken. The bladder had to be peeled off in front for a short distance to allow the clamp to be employed. The tumour was a large œdematous myoma, and bleeding had been free and continuous, and uninfluenced by medical treatment. The patient made a good recovery. In both these cases I had to use the clamp; in the first because of the presence of the large broad ligament cyst, and in the second on account of the extremely anæmic condition of the patient demanding a quick and bloodless operation. In a suitable case, however, I should prefer to remove the whole organ, and close the abdomen.

III. CANCER OF THE UTERUS.

Two cases of vaginal hysterectomy appear in the list. They are, I think, the only operations of that kind yet done in this city, and were both for malignant disease. I prefer the ligature to the clamp in this operation. The operation by ligature is more prolonged, but once it is done the patient is relatively safe. The clamp method saves time at the operation, but the risks of including a ureter, or of having secondary hæmorrhage, are much greater than in the other. I used the Continental gauze drain in preference to the tube of the British surgeons. It appears to me that in no gynæcological procedure is it more necessary to carry out all details with the utmost precision at the time of the operation than in this, so that the patient may be left undisturbed afterwards. Subsequent vaginal dressings should be reduced to the smallest possible number, say two or three, and douches should be avoided. It is to be regretted that the benefits of this form of treatment are largely confined to the well-to-do, since poor patients rarely apply for treatment for cancer till they are driven to do so by pain, and by that time the glands are extensively involved, and total extirpation impossible. Both my patients were operated on early, and both did well.

IV. CANCER OF THE RECTUM AND STRANGULATED FEMORAL HERNIA.

My two bowel operations were an inguinal colotomy for cancerous stricture of the rectum, and an operation for strangulated femoral hernia. The colotomy case did well, and the results were as gratifying as one could expect. I much prefer the inguinal to the lumbar operation, but my present feeling is that colotomy should be abandoned in favour of total extirpation when that is at all possible. The adoption of Kraske's method of excising portions of the sacrum and coccyx, and opening the peritoneal cavity so as to get well above the disease, will bring many cases under treatment which have hitherto been left to their fate, and will give others far more relief than colotomy can do. My experience of Kraske's method is limited to one case seen on the Continent, but the results were so brilliant that I would gladly practise it in any suitable case in preference to colotomy.

In the hernia case, when the stricture had been divided the bowel was found to be ruptured, and the peritoneum contaminated by fæces. I at once opened the abdomen above Poupart's ligament,

secured the bowel, which was ulcerated in two-thirds of its circumference, in the wound, and cleansed the peritoneal cavity. The patient rallied for an hour, but then began to sink, and died in nine hours. In another such case I would content myself with leaving the herniotomy wound open, in the hope that the ruptured bowel would discharge through it, and that the general peritoneal cavity would get shut off by adhesions. The resulting fæcal fistula could be dealt with later.

V. CANCER OF THE GREAT OMENTUM.

In the case of cancer of the great omentum the tumour was large, but remarkably movable. As there was no evidence of disease elsewhere, extirpation seemed quite feasible. On opening the abdomen the tumour was found to involve the transverse colon and greater curvature of the stomach, and to be secondary to similar disease in the pelvis. Removal was not attempted. The patient recovered from the operation, and for a time the growth of the tumour seemed to be retarded. Ultimately she died nearly two years after exploration.

VI. CANCER OF THE PYLORUS.

In the case of cancer of the pylorus the diagnosis was doubtful. The mobility of the tumour led us to hope that it might be seated in the colon, and its slow growth was against malignancy. The patient was so much exhausted by the short exploratory operation that any attempt to establish an anastomosis between stomach and jejunum was out of the question. She made a good recovery, and improved for a time owing to careful rectal feeding, but in the course of four months she died.

GENERAL REMARKS.

In the series of 22 cases two deaths followed operations—viz., in the cases of suppurating ovarian cysts and ruptured strangulated hernia. Both were due to soiling of the peritoneal cavity. In 3 of the cases of cancer the disease could not be removed, and the patients lived, 1 for four months, 1 for six months, and the other for twenty-one months after operation. In one case of ovarian tumour temporary relief was afforded by incision and drainage, and the patient is still going about, though the tumour is suppurating, and shows a tendency to fungate. The remaining 16 cases are all well. So far as I know, no patient has developed a hernia.

Of the 22 operations 4 were done in private houses, and 18 in the Samaritan Hospital. With our present knowledge of the essentials for success in abdominal surgery, the place in which the operation is performed is not of so much importance as it used to be. Any airy, well-lighted bedroom does quite as well as a special ward in hospital, and an ordinary domestic table is quite as reliable as a specially constructed one. If the house is in a good sanitary state, and free from recent contamination from infectious disease, and if three, or even two rooms are available for the use of the nurses and patient, we have all that is required. Most patients naturally prefer to face the ordeal of an operation in their own homes, and within easy reach of their relatives, and find the period of convalescence less dreary amid familiar surroundings.

In conclusion, I have to thank those gentlemen who kindly sent me cases, and who, in many instances, gave me valuable help in the treatment of the patients.

ART. XIV.—*The Need for Women as Poor Law Guardians.*^a

By EMILY WINIFRED DICKSON, M.B., B.Ch., B.A.O., R.U.I.,
F.R.C.S.I., L.R.C.P.I.

I HOPE that the subject of my paper will not be considered outside the scope of the Section of State Medicine. The position and difficulties of doctors who are serving the State under the Poor Law Acts have often been discussed here, and as my subject concerns the composition of the Board which appoints the dispensary and workhouse doctors, and which controls the management and nursing of the workhouse hospitals, I think it may fairly lie within our province. In England, under the Poor Law Amendment Act of 1834, there is no technical disqualification on the ground of sex to prevent women serving on Boards of Guardians, and yet for forty years after the passing of the Act no woman presented herself for election. Under the stimulus of the wider outlook which more advanced education gave them, women looked abroad for fields of usefulness and work beyond their own immediate homes, and in 1875 a woman came forward as a poor law guardian in Kensington and was elected. Since then the number of women guardians has increased at every election. In 1887 there were 50,

^a Read before the Section of State Medicine in the Royal Academy of Medicine in Ireland, on Friday, February 1, 1895.

and this year there are over 800. Their work has received the unqualified approval both of the ratepayers and the Local Government Board, and anyone who has followed the recent series of articles in the *British Medical Journal* on English workhouses will have observed that even that conservative journal notes the benefit of having women on the Boards.

In Ireland the Acts relating to Poor Law administration are different from those of England, and the fundamental Act—that of 1838—contains the words “male person” in the description of the qualifications of a guardian. This expression was probably inserted quite inadvertently; it had not then dawned upon the minds of law-makers that women might want a share in administration. Standing as it does, however, it of course excludes women absolutely until a short amending clause can be put through Parliament, and in the press of other business it is very difficult to get that done. Several attempts have been made to pass such a clause. Last year a bill was introduced by a Unionist member and was supported by nearly the whole Nationalist Party, but one member blocked it and it failed to become law. When one examines the duties of guardians it seems extraordinary that women should only of late years have taken up the work in England, and that they are not allowed to serve in this capacity in Ireland, for the management of the workhouse is in a very large measure a matter of household management, such as every woman is accustomed to perform or supervise in her own home. The average man does not pretend to be able to do housekeeping on a small scale—to look after the cooking of the food, the cleaning of the house, the clothing of the children, &c., that is usually conceded to lie outside his sphere. But incompetence to manage a small household seems to be a qualification for the post of managing a large one, contrary to the usual rules in such cases.

Among some of the duties which Boards of Guardians have to perform, and in which surely they would find a woman's knowledge of service, are the following:—

(1.) Engagement of officials, the majority of whom—matron, nurses, and servants—are women.

(2.) Superintending the quality of the material and the making of the clothes for the women and children.

(3.) Inspection of the supplies sent in, to see that they fulfil the contract requirements, and inspection of the food, to see that it is properly cooked and served.

(4.) Inspection of the infants and children, to see that they are well fed and cared for.

(5.) Inspection of beds, bed linen, and towels. All these matters a woman is accustomed to see to as a matter of routine in her own house, and she is trained to notice them, and if they are badly done to have them set right. It is no question of special professional training, it is a question of using the training and habits of home in a wider field and on a larger scale; the essentials are the same. It is often said that women are unbusinesslike, and this might be urged as an objection to their undertaking the more extensive work of a guardian, but business habits are largely a matter of training, and most women who have to organise and manage their households have a very fair idea of business in their own line at least, though they may not understand stocks and shares. They are also often more economical than men, because they are accustomed to deal with smaller sums of money. Besides, it is not proposed that any Board should be entirely feminine—I believe in the co-operation of men and women here as elsewhere; what I wish to urge is the very great need for one or two women on each Board to assist and give advice in matters concerning the women and children and domestic affairs. And as I believe that nearly four-fifths of the paupers are women and children, this does not seem a very unreasonable proposal. As examples of what women have done as guardians in England during the last 20 years, I may instance the following points:—

(1.) Investigation into the clothing of the women and children. The women were found in many cases to wear the same clothes in all seasons of the year, and suffered greatly from the cold in winter. The children too were often insufficiently and uncomfortably clad.

(2.) In many cases the workhouse school has been abolished and the children are sent to the nearest Board school and allowed to play and mix with the children there, in order that they may be as free from pauper associations as possible. This has everywhere been found to be of the greatest advantage to the children physically and mentally, besides saving the cost of a separate school.

(3.) Pocket handkerchiefs have been provided for the inmates, adults, and children. This is not a very extravagant or luxurious addition to their toilette requisites, but it is one which is still lacking in many workhouses, and though it is a small matter, on the score of cleanliness, at least, it seems desirable.

(4.) Careful supervision is carried out concerning the facilities for washing, and provision made that each person should have fresh water and a separate towel. Inspection is made of the women's baths and sanitary conveniences.

(5.) Frequent inspection is made of the nurseries to see that the infants' bottles are kept clean and the children well looked after. Old pauper women are found as unsatisfactory for this work as in workhouse hospitals, and in several places paid attendants have been substituted.

(6.) Properly trained nurses for the hospitals are being gradually recognised as absolutely necessary, and in several cases the lady-guardians have been instrumental in bringing about this change. They also supervise the nurses' rooms, and see that they have good food, open-air exercise, and holidays at suitable times.

(7.) In many of the cases concerning women which come before the Board, such as that of the unmarried girls who have been recently confined in the hospital, the women guardians have done good work in assisting them to employment where they can redeem their characters, or putting them into communication with charitable institutions where they can be trained. In some of the larger Boards these questions are relegated to a sub-committee of ladies.

(8.) Boarding-out or emigration of children, and proper inspection of them when boarded out, have also been taken up recently by the women, as well as inspection in asylums of female lunatics sent from the district.

(9.) Also the supervision of the training of the girls for service, and finding suitable situations for them when ready, not merely sending them to the first place that offers, is work that the women-guardians do. While some of the above reforms represent increased expenditure, the women have been able to exercise economy in other matters so as to have the paupers better treated and with less expense. In the matter of the able-bodied male paupers and tramps, however, it has been noted on several Boards that the women-guardians incline to making treatment even more severe and deterrent than it is. Their sympathies are not with this class, but with the sick, the aged, and the children.

For all these matters a great deal of individual attention to the cases and the household details is necessary, and that is another point where the value of women as public servants in this capacity comes in, as the women who devote themselves to the work have

generally a good deal of leisure. The men who are guardians have not the necessary time to give to these matters, even if they possessed the intimate knowledge of the points mentioned that women have.

It is often laid to women's charge as a fault, that they cannot take a broad and extensive view of a subject—they cannot see the wood for the trees. But this characteristic is a virtue here, for it is only by personal attention to individual cases that success in the administration of the poor laws can be obtained. It is shown clearly by the revelations about barrack schools, for instance, and other large institutions, that no system and no regulations, however carefully framed, are successful in dealing with masses of people, unless wisely and conscientiously and kindly carried out. In the circular issued recently by the English Local Government Board, this is strongly emphasised in the following words:—"All experience shows that whether a workhouse is well or ill-administered depends to a large extent on the personal interest which the guardians take in the matter." This circular is described by an English paper as "The Pauper's Charter," and it certainly marks the change in people's ideas compared with former times as to the way the destitute poor should be treated. Women-guardians have also done a great deal towards humanising the workhouses by having the wards brightened with pictures and flowers, by providing toys for the children, and interesting easy employment for the old people in connection with the Brabazon scheme. In many of these alterations women have called in the assistance of various charitable societies, so that the schemes of private and State benevolence co-operate instead of overlapping.

Surely if women have found so much work to do in English workhouses, and have been able to do it with considerable success, there is also work for them to do in Ireland if they were allowed to try, and I believe that suitable women could be found in most of the districts. It is a post for which tact and judgment and sound common sense are required, as well as plenty of time to devote to the work, and there would, of course, be initial difficulties, but they are not insurmountable. The question of religious differences would probably come into this as it does into everything in Ireland, and I believe there have been unfortunate instances of injudiciousness on the part of some lady-visitors to workhouses. But women-guardians would differ from the visitors in being elected by the ratepayers, not arbitrarily appointed, and they

would be publicly responsible for their actions. I believe the fact of public responsibility would make all the difference, and women have too long been allowed to use the dangerous tool of influence without responsibility.

The State takes upon itself the duty of caring for the destitute both in health and disease, and medical science is advancing more and more every year along the lines of prevention rather than cure. In the furtherance of these aims I believe the doctors who work under the Poor Law would find womeng-uardians strong allies in all matters of sanitation and hygiene as well as nursing.

TYPHOID FEVER IN CHICAGO.

DR. HUFF, formerly Member of the Chicago Health Department, presented a paper to the local Medical Society on the prevalence of enteric fever in the city, and its causes—or cause—the unsatisfactory nature of its water supply. The *Medical Record* (December 30th, 1893) thus summarises Dr. Huff's facts:—"From January 1, 1890, to November 1, 1893, there have been 5,087 deaths from this disease, or an average of 110 per month. This means that there have been from 25,000 to 30,000 cases. The epidemic began in 1889, with 453 deaths. The mortality increased until 1891 and 1892, when it reached nearly 2,000. It declined slightly in 1892, and has been somewhat less this year, but it is still very prevalent, there having been 712 deaths, and presumably over 4,000 cases, during the year ending September 30, 1893."

SPELLING REFORM.

THE *Journal of the American Medical Association* devotes a leading article to this subject, and informs us that the American medical editors, at their recent annual meeting, agreed to adopt the reformed orthography at once. In reply to opponents, who are assured that American professional action in this direction only hastens "changes that our English brethren are sure to adopt sooner or later," some amusing specimens of what English medical orthography, now supposed to be fixed, used to be are given. The following is Maister John Vigon's treatment of furuncles, as spelled in A.D. 1550:—"When ye chaunge this playster, laye upon the sore this liquid cataplasma R of the foresayge decoction ii-iii of the floure of barly and wheate ana ʒi. Of comune oyle, of buttyre, of swyne's grece, melted ana ʒij wyth the yolkes of foure egges, let them seeth all togyther except the yolkes of the egges," &c.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

A Practical Manual of Diseases of Women, and Uterine Therapeutics.

By H. MACNAUGHTON JONES, M.D., &c. London: Baillière, Tindall, and Cox. Sixth Edition. 1894. Pp. 745.

A WORK that has run through five editions in the short space of ten years, is beyond the power of the reviewer either to harm or benefit, so far as the public is concerned, and we congratulate the author on the success he has already achieved in so well supplying an undoubted want.

This last edition has undergone many changes. New chapters have been added on uterine reflexes, sutures, and ligatures, the surgical treatment of uterine myomata, affections of the Fallopian tubes, tubal pregnancies, and ovarian affections. The illustrations and diagrams throughout the book are worthy of especial notice, they are clear and distinct, and leave one no room for doubting what the author wishes to make clear. The early part of the book dealing with anatomical and chemical points is necessarily curtailed. The diagram dealing with the anatomical relations of the ureters is good, and this subject receives the author's careful attention. That of the blood-supply of the uterus too, embodies the latest researches. We regret to see the very doubtful possibility of catheterisation of the Fallopian tubes mentioned. We likewise regret that the author has not thought it advisable to insist to a greater degree on asepsis, and think an introductory chapter on this subject would form a most useful addition to the work. To make our remarks clear, we will describe the directions given by the author in the passage of a sound. Without giving any directions concerning the cleansing of vulva, vagina, instruments, or operator's hands, we are told to pass a finger of the right hand "up to the os uteri, and its direction and the position of the uterus thus fairly ascertained, the sound is now introduced into the vagina, &c."

Seeing that this is the method adopted by the author, we are not at all surprised to find him stating that sometimes this "trifling

uterine operation" is followed by disastrous results. "The immunity from all harm that may have followed us for years will be suddenly and unpleasantly interrupted when we least expect it" . . . "the attack of uterine colic or of endometritis or perimetritis is suddenly developed, and alarming symptoms may occur that a little prudent forethought would prevent." We turn to see in what direction this forethought is to be exerted, and find that "every precaution is to be taken against cold," and that a sound should not be passed immediately before a menstrual period. We would suggest, instead, that the author should warn his readers against dirt and not cold.

The chapters dealing with amenorrhœa, dysmenorrhœa, &c., are good, and the author, very properly, looks upon these as mere symptoms of diseases which are with due care quite discoverable, and in most instances curable. Therapeutic notes are also introduced, but for our part we have little faith in the vaunted uterine tonics, and believe that in the vast majority of cases they do more harm than good by lulling the doctor's and patient's fears with false hope, and preventing the true nature of the disease being ascertained.

On page 132 Hegar's sign of early pregnancy is incorrectly described as "the uterus losing its pear-shaped outline."

Chapters IX. and X. deal clearly with the question of uterine displacements. The indiscriminate use of the pessary is emphatically condemned. Here we should like more prominence given to the question of adhesions in retroversion. The more radical operations for the cure of retroversions are all described, with the exception of the vaginal operation of Mackenrodt. In the succeeding chapters the surgery of the cervix and endometrium will be appreciated by every reader. Many of the plastic operations on the perinæum are clearly described and figured, the author giving preference to the procedure of Mr. Lawson Tait. Polypi of the uterus find a special chapter; here the author rightly emphasises the importance to the practitioner of their recognition.

Chapters XX.-XXII. are reserved for the consideration of uterine myomata. The author deals most ably with their pathology and treatment. The question as to the necessity for operation is fully and clearly laid before the reader without bias. Many of the various methods for operating are enumerated, the author giving the preference to the extra-peritoneal method of fixing the stump. Martin's plan for extirpating the uterus by means of

abdominal incision is not mentioned, and we much regret the omission; as the results of this operation are far superior to that of any other method.

Carcinoma of the cervix and malignant disease of the uterus generally, are next considered, and here the well-known operation of vaginal hysterectomy, described at the Bristol meeting of the British Medical Association by Dr. Jessett, is fully gone into, the author stating that he is "indebted to Mr. Jessett for the details in the text." It is a curious omission that the author does not in any way mention the much more generally useful plan of vaginal hysterectomy by morcellement. This latter was described by Dr. W. J. Smyly at the Bristol meeting. Its great safety and its wide range of usefulness entitle it to be better known in these countries, and we look upon its omission as a grave error.

Ovarian and tubal diseases receive full attention, as do also affections of the vulva.

A special chapter is devoted to renal diseases likely to enter into gynæcological practice, and a second to urethral surgery. Kelly's method of exploring the female bladder and ureters is well described, and will, we have no doubt, be read with interest. Bladder and rectal diseases are not forgotten, and in the last pages are found a list of health-resorts, and an Appendix containing much useful information.

We congratulate the author on this volume, and wish his work the success which the care and labour he has evidently spent on it deserve. It is a book distinctly suitable for practitioners, and is a clear, concise, and readable account of a science which has made such progress in latter days.

Fibroid Diseases of the Lung, including Fibroid Phthisis. By SIR ANDREW CLARK, Bart., M.D., LL.D., F.R.S.; W. J. HADLEY, M.D. (Dur.), M.R.C.P.; and ARNOLD CHAPLIN, M.D. (Cantab.), M.R.C.P. With Tables and Eight Plates in Colours. London: Charles Griffin & Co., Limited, Exeter Street, Strand. 1894. 8vo. Pp. 199.

A TWO-FOLD interest attaches to this book. In the first place, it bears on the title-page the honoured name of Sir Andrew Clark as first and chief of its three authors—"much of his last vacation was spent in the service of this volume," which—alas!—so far as he was concerned, proved to be a posthumous work. But, apart

from mere personal considerations, the subject of Fibroid Diseases of the Lungs is one which must always attract attention and excite interest.

The work consists of seven chapters, running to some 200 pages of large octavo letterpress. In the first chapter the authors give a very interesting historical account of the disease which has been described under the various names of "Fibroid Phthisis" (Sir Andrew Clark, 1868), "Fibroid Degeneration" (Sutton, 1865), "Cirrhosis of the Lung" (Sir Dominic Corrigan, 1838), "Chronic Pneumonia" (Grisolle, 1841), "Interstitial Pneumonia" (Juergensen, 1875, and Rokitansky, 1849), "Grey Induration of the Lung" (Addison, 1840-45), and "Melanosis" (Bayle, 1810). In this connection, mention is made of three cases which Dr. Douglas Powell reported in 1869 in the *Transactions of the Clinical Society* (Vol. VI.) under the title of "Phthisis with contracted Lungs." At the end of this historical chapter the authors classify all fibroid disease under the following three headings:—

1. *Pure Fibroid, Fibroid Phthisis*, a condition in which there is no tubercle.

2. *Tuberculo-fibroid Disease*, a condition which is primarily tubercular, but has subsequently run a fibroid course.

3. *Fibro-tubercular Disease*, a condition in which primarily fibroid disease has become tubercular.

Having struck the key-note in this classification, the authors proceed, in Chapter II., to justify the term "Fibroid Phthisis." There is a notable definition of "Pulmonary Phthisis" in this chapter. "By this term," we read on page 32, "is meant that assemblage, progression, and relation of signs and symptoms, associated with or dependent upon, the ulcerative or suppurative disintegration of more or less circumscribed, non-malignant consolidation of the lungs." This is good, but we take exception to the loose way in which the word "consolidation" is sometimes used, as if it were co-extensive with the pathology of phthisis and of fibroid disease. Surely, also, it is not scientifically correct to say that "the consolidations in the lungs of the patients constituting the larger group of cases (Tubercular Phthisis) are composed invariably of tubercular bacilli, of 'tubercles,' and of the various other structural changes which they bring about." How can "tubercular bacilli" be said in any way to *compose* consolidations?

In contrast to this "larger group" of cases of chronic lung

disease, we have a "smaller group" to which the term "Fibroid Phthisis" may, in the opinion of the authors, be given. For "the consolidations in the lungs of the patients forming the smaller group of cases are composed almost entirely of fibroid tissue of different grades of organisation, and of some other inconstant structural changes brought about by derangements and interruptions of the local currents of blood and lymph." (Page 34.)

Chapter III., one of the longest in the book, contains a carefully written and clear account of the pathological anatomy of pure fibroid disease. A systematic description is first given of the results of the autopsies in general in 45 cases in which no evidence of tubercle could be found. Of these cases 18 occurred in males and 27 in females, the age of the oldest patient being 65 years, that of the youngest $2\frac{1}{2}$ years. Out of the 45 cases, no fewer than 38 were observed between the ages of 1 and 30 years, and only 7 between the ages of 30 and 65. Of the 38 cases, 22 occurred between the ages of 5 and 15. The authors say that "these facts warrant the conclusion that the disease is rarely met with after the age of 30;" but, perhaps, a better way of expressing it would be to say with Dr. Wilson Fox, when discussing the ages at death also, curiously enough, in 38 cases, "the disease materially shortens life, since nearly two-thirds of the patients died before attaining the age of forty."*

The authors in the next place narrate the actual changes observed in each particular case, pointing out, as they proceed, wherein they differ from the descriptions given by other workers in this subject. And here we may draw attention to the very beautiful coloured plates, eight in number, which illustrate this and the succeeding chapters. So far as we have been able to ascertain, the letterpress contains no clue to the artist, who is to be congratulated upon the excellence of his work. An allusion in the preface, however, would lead one to infer that Drs. Hadley and Chaplin are themselves the artists. They state that their first idea was to bring out a book of plates, with short descriptions illustrating the various morbid conditions found in fibroid lungs. In the preface, also, they say that "the very faithful drawings of the microscopic changes in the lungs were made by our friend, Dr. H. G. Adamson." This reference is to three woodcuts on pages 55, 62, and 63 respectively.

* *A Treatise on Diseases of the Lungs and Pleura.* London: J. & A. Churchill. 1891. Page 415.

The fourth chapter runs to 30 pages, and comprises a full clinical account of fibroid disease of the lung unaccompanied by tubercle. Under the heading "*Ætiology*," a catalogue of 11 diseased conditions which stand in a causal relation to fibroid disease is given, and each of these causes is considered separately. The affections which most commonly produce the "lowering of vitality and alteration of nutrition," which in turn induce the "vulnerability, or susceptibility of the organism to take on a fibroid process" (the "*Fibroid Diathesis*"), are broncho-pneumonia, acute pneumonia, and bronchitis. The abuse of alcohol, also, may be said to exert some influence over the production of the fibroid state.

In Chapter V. the authors describe the tuberculo-fibroid and fibro-tubercular varieties of the fibroid process. The origin of the former is thus explained—"As soon as a tubercle is deposited in the lung, two secondary processes are set a-going, a fibroid process and a pneumonic process; and the future history of the tubercle, up to its disintegration or its calcification, depends almost entirely upon the relative activity of these processes. If the fibroid process predominates, the history of the tubercle will tend to a complete fibroid substitution; if, on the other hand, the pneumonic process predominates, the history of the tubercle will tend to suppurative or ulcerative disintegration."

The clinical description of tuberculo-fibroid disease of the lungs, based on 13 cases, strikes us as being particularly clear and convincing. The careful reader can scarcely avoid the conclusion that the authors have proved their case, and that, in some instances, at all events, of ordinary chronic tuberculous phthisis, "as time goes on, the fibroid process gains supremacy, the tuberculous manifestations becoming either obsolete or, at any rate, of only secondary importance."

On the other hand, the diagnosis of the fibro-tubercular disease depends on a history of sweating, wasting, feverishness, and progressive weakness; on the presence of physical signs of destructive lung disease in the apex; and on the discovery of tubercle bacilli in the sputum.

Chapter VI. embraces an analysis of the 45 cases of pure fibroid disease, and of the 13 cases complicated with tubercle, on which the previous account of these varieties of "fibroid diseases of the lung" is based.

In Chapter VII. a case of fibroid phthisis, reported by Sir Andrew Clark to the Clinical Society of London on February 14,

1868, is reproduced by permission of the Society. The patient was a woman, aged 28, married four years but childless, who was admitted to the London Hospital on November 21, 1867, and died on December 3. Her left lung presented a remarkable example of "fibroid phthisis." The microscopic appearances are shown in the coloured plate (No. VIII.)

The book concludes with an index to authors and one to subjects. It is well written and beautifully printed, and forms a graceful and touching memorial of Sir Andrew Clark, while it establishes a literary reputation for his surviving fellow-labourers and co-authors, Drs. Hadley and Chaplin.

The Healing of Rodent Cancer by Electricity. By P. INGLIS PARSONS, M.D., M.R.C.S., M.R.C.P. (Lond.); Honorary Fellow, American Electro-therapeutic Association; Fellow, Royal Medical Chirurgical Society; Fellow, Obstetrical Society, London; Fellow, British Gynæcological Society, &c., &c. London: John Bale and Sons. 1893.

As the author tells us in his preface, he has published this monograph "at the request of medical and other friends who have seen the results of" his treatment by electricity. His hypothesis of the intimate nature of malignant disease is that of loss of control of the proper nervous influence. "Since malignant disease nearly always commences in a sore subject to chronic inflammation, or in some tissue liable to frequent irritation, such as the uterus or breast, is it not likely that the frequent efforts at repair lead eventually to such an active proliferation of new cells, that some of them escape from the control of the nervous system and take on an independent existence?" "Rodent cancer is so nearly allied to true malignant disease that it will probably be found to be due to the same cause." He criticises favourably the recent theories of the parasitic nature of malignant disease, and goes on to observe that "if it should ever be proved that cancers are caused by these minute parasites the benefits derived from the use of electricity could be equally well explained."

In his treatment by electricity the author's "aim has been to adjust the strength of the electric current so as to kill the malignant cells, yet not to injure the healthy cells beyond recovery." As he observes elsewhere, it is well known that electric discharges of sufficient power are fatal to minute organisms." So that whether

the final verdict of the scientific world on the hypothesis of the parasitic nature of cancer be favourable or otherwise, the discussion or the decision should not be allowed to interfere with the prosecution of the electrical treatment.

Some very favourable results are reported, and an excellent one is figured "before and after" between pp. 70 and 71. But why are these illustrations called *diagrams*?

Infant Feeding by Artificial Means: A Scientific and Practical Treatise on the Dietetics of Infancy. By S. H. SADLER, Author of "Suggestions to Mothers," "Management of Children," "Education." With twenty-four Illustrations and two *fac-simile* Letters. London: The Scientific Press, Limited. 1895.

IN this little volume Mrs. Sadler has, with great pains and discrimination, collected the essentials of the science and the art of infant feeding. The enthusiastic authoress has evidently spared no trouble in mastering the details as well as the principles of her favourite study. "I have pursued my researches as to the feeding of infants abroad as well as in England, and have visited some of the best-known hospitals. I give in this book every way that I have been able to find out of successfully meeting the difficulty of feeding delicate and feeble as well as robust infants." So the reader is told in the preface. And, accordingly, the work before us is a thoroughly-furnished storehouse of information on this, one of the most important subjects of human study. It is extremely well printed, and richly illustrated. It is evident that no trouble or expense has been spared by the authoress in making her book attractive as well as useful, and we have great pleasure in recommending it to the notice of all medical men, as well as nurses and mothers, as the most complete and reliable work of its kind with which we are acquainted.

Army Medical Department Report for the Year 1893. With Appendix. Volume XXXV.

IN our notice of this Report we shall confine ourselves to one point—the military inefficiency due to venereal diseases; to the encouragement of which some very worthy people have devoted themselves for some years past. The following table, which we have compiled from the Report, needs no comment:—

STATIONS	Admissions per 1,000	Compared with 1892.		Constantly Sick	Compared with Seven Years' Average.		Compared with 1892.		Compared with Seven Years' Average.	
		Increase	Decrease		Increase.	Decrease	Increase	Decrease		
United Kingdom	-	-	6.60	16.68	-	29.00	0.22	-	-	0.79
Gibraltar	-	87.40	-	27.77	55.20	-	5.95	-	9.83	-
Malta	-	-	-	18.02	-	-	-	-	-	-
Cyprus	-	-	21.60	16.96	-	79.40	8.86	-	-	2.90
Canada	-	18.10	-	5.12	-	22.80	0.86	-	-	2.50
Bermuda	-	18.10	-	8.12	-	16.80	-	0.85	-	1.60
West Indies	-	-	21.70	29.02	-	1.00	-	0.80	4.89	-
S. Africa and St. Helena	-	8.80	-	21.90	-	17.90	-	0.80	0.97	-
Ceylon	-	-	25.90	28.44	-	55.80	8.75	-	1.05	-
China	-	25.20	-	28.96	96.60	-	2.27	-	8.46	-
Straits Settlement	-	-	18.80	31.43	-	78.40	-	1.85	-	4.90
Bengal	-	69.10	-	37.07	59.00	-	7.07	-	7.76	-
Madras	-	97.10	-	42.76	104.90	-	8.97	-	11.50	-
Bombay	-	101.70	-	33.63	85.10	-	8.81	-	6.07	-
Egypt	-	180.70	-	31.73	-	-	8.82	-	-	-

We shall only observe that in India Parliamentary encouragement to the increase of venereal diseases has, as was expected, been most successful, and that in eleven of the fifteen commands the inefficiency caused by this class of diseases was greater in 1893 than in 1892, and in ten greater than the septennial average.*

Some of the appendices to this Report are of special value—as the Reports on the Buda Pesth Congress, by Surgeon Lieut.-Col. Notter; on the Congress of the *Association Française de Chirurgie*,

* We extract from the *Homeward Mail* the remarks of General White, in the Indian Legislative Council, upon the Cantonments Act, which has been forced upon the Government of India by Home Government omniscience. The Commander-in-Chief said:—"The words that have just fallen from my honourable colleague seem to me to be open to the interpretation that the extent to which venereal diseases obtain in the army has not been fully put before the House of Commons, and that if it had been so put we should have been saved from the consequences of the Resolution of the House of Commons of 1888, which has been given effect to by executive order under instruction from her Majesty's Government, and is now about to be established by legislation. I can assure my honourable and learned friend that the extent to which venereal disease prevails in the army, and the probability that the removal of the restrictions that could formerly be enforced would increase the extent of this disease and the consequent inefficiency of the army, have been exhaustively put before Her Majesty's Government. How necessary such representation is may be inferred from the fact, now notorious, that in 1893 the admissions to the hospital for venereal disease alone among British soldiers in India were 466 per thousand. This is practically 50 per cent. of the strength, for a rough and ready calculation of this proportion may be adopted, and gives us out of a total of 70,000 British soldiers 35,000 admissions to hospital for venereal diseases every year. The average period of treatment is about thirty days, and a simple sum in arithmetic will show that a total of 1,050,000 days' duty, paid for by the taxpayers, is every year lost to the public service. Nor does this anything like exhaust the case. The same figures show that in two years the whole British Army in India will have been treated in hospital for venereal diseases. The inefficiency that this wholesale infection must bring about under the hardships and exposure of a campaign I cannot reduce to figures, but at the same time I cannot contemplate it without the gravest apprehension. The statistics given are those of 1893, and I believe that those of 1894 will show even worse results, especially as regards the virulence of the disease, because in 1893 the prostitute class had scarcely realised what they now know, that there is no restriction on them in plying their trade short of actual physical suffering and decay. Knowing these statistics—and they are very indelibly impressed on my memory—I would be very sorry that any word I have spoken or any act done should be misinterpreted to mean that I personally, and as representative of the army, am in favour of the removal of what I believe have been most useful restrictions. But the will of the nation has found lawful expression in the now well-known resolution of the Commons, and as long as it remains uncancelled on our Parliamentary records, we are bound to give effect to it, and perhaps the very last officer under the Crown who can constitutionally put himself in opposition to the will of the nation, legitimately established, is the Commander-in-Chief of the Army in India, however much he may differ from the policy which it enforces."

by Surgeon Lieut.-Col. Pratt; and on the Epidemic of Plague at Hong Kong, by Surgeon-Major James.

The Medical Annual and Practitioner's Index: a Work of Reference for Medical Practitioners. 1895. Thirteenth Year. Bristol: John Wright & Co. 8vo. Pp. 751.

WRIGHT'S Medical Annual enters on its teens in the present issue, and we heartily congratulate the editors and contributors on the success of their labours in the past and the rosy prospects of their undertaking in the future. We have, however, again to express regret that only one Irishman is on the editorial staff—Dr. William J. Smyly—no doubt a host in himself. This circumstance is all the more remarkable as the editors in their preface disclaim “any consideration of nationality or school in selecting our contributors.”

The present volume is fully up to the high standard of excellence to which this work had attained in previous years. Among the more important articles are the following—The treatment of diphtheria by antitoxic serum, written by Dr. M. Armand Ruffer; anti-microbic treatment, by Professor Alfred H. Carter; angioneurosis, by Mr. W. Ramsay Smith; surgery of the bladder, by Mr. E. Hurry Fenwick; cancer, by Mr. W. H. Elam; the ear, by Dr. J. Dundas Grant; eyesight as influenced by school-life, by Mr. Simeon Snell (very well illustrated); puerperal fever, by Dr. W. J. Smyly; Friedreich's disease, by Dr. Hector W. G Mackenzie; idiocy, by Dr. G. E. Shuttleworth; insanity, by Dr. James Shaw; intestinal surgery, by Mr. A. W. Mayo Robson—in which the author gives the latest results of the operative treatment of perforation of typhoid ulceration of the intestine; diseases of the larynx, by Dr. Greville MacDonald, illustrated by two plates of chromo-lithographs by Danielsson and Co., of London; infantile paralysis, written conjointly by Mr. Robert Jones, of Liverpool, and Dr. John Ridlon, of Chicago; the dietetic treatment of phthisis, by Dr. Henry P. Loomis, of New York; diet in diseases of the stomach, by Dr. Robert Saundby; “pyorrhœa alveolaris,” or Rigg's disease, in which pus is present between the edges of the gums and the necks of the teeth, by Mr. J. Fitzgerald, L.D.S.; the diagnosis of tuberculosis by means of the third blood corpuscle, by Dr. Robert Lincoln Watkins, of New York; and surgery of the ureter, by Mr. A. W. Mayo Robson.

Under the heading "Variola," mention is made of Finsen's observations on the effect of light upon the skin, to which effect was given in the treatment of small-pox by Svendsen, of Bergen.

Dr. Joseph Priestley, Medical Officer of Health for Leicester, contributes a long article on practical sanitation, in which an account is given of the new disinfecting apparatus lately brought out by Mr. A. B. Reck, of Copenhagen. It is free from danger because of the low pressure of steam used, but cannot, unfortunately, be employed as a hot-air chamber for the disinfection of such articles as leather and fur. The English agents are the Blackman Ventilating Company, Limited, 63 Fore-street, London.

When alluding to the prevalence of small-pox, Dr. Priestley curiously does not name Dublin among the places in which the disease has of late been rife.

The remaining departments of the "Medical Annual" contain information about new surgical appliances and dressing, dietetic articles, the progress of pharmacy, &c. These savour too much of the advertising element, and might well be subjected to revision and excision in future issues of the "Medical Annual." The "Dictionary of New Remedies" at the beginning of the volume presents the reader with an admirable review of therapeutic progress in 1894.

Travaux D'Électrothérapie Gynécologique. Archives Semestrielles D'Électrothérapie Gynécologique. Fondées et Publiées par le DR. G. APOSTOLI, Vice-Président de la Société Française D'Électrothérapie, &c. Volume I., Fascicules I. et II. Paris : Société d'Éditions Scientifiques. 1894.

It speaks conclusively of the rapid progress of electro-therapeutics, as applied to the special diseases of women, to find so large and well-got-up a serial as the one whose first volume is now before us offered to the world as a chronicle of some of its results. An enormous mass of material has been gathered into this volume from sources far and near, from the New World as well as from the Old. The greater part of the matter has been translated from the English language—from originals derived from Great Britain, Canada, and the United States. The results obtained appear in most cases to have been very favourable—we had almost said very wonderful; and if its present rate of progress continues the operations of hysterectomy and ovariectomy should soon be

relegated to the domain of barbaric surgery. "De la Méthode d'Apostoli: Étude Historique, Theorique, et Pratique, avec Observations Cliniques" is a translation from the Russian of Dr. Basile Martin, "Médecin Assistant de la Clinique Gynécologique du Professeur K. F. Slavinsky" (of St. Petersburg), and gives a really splendid and exhaustive survey of the subject. We have examined this volume with great pleasure, and we wish the work a successful future career.

Puerperal Eclampsia. By KENARNATH DAS, M.B., Medical and Surgical Registrar to the Medical College Hospital, Calcutta. 1895. Pp. 91.

THIS is a reprint of a paper read before the Indian Medical Congress, and we welcome it as a painstaking contribution to the subject.

The author has gone to much trouble in proving that this disease is commoner amongst native women than amongst Europeans, even though residing in India—though the climate itself seems to exercise some influence towards increasing the number of eclamptics.

The author next proceeds to demonstrate from his cases what has already been fully recognised—viz., the much commoner occurrence of the disease in primiparæ than in those who have borne children before. Thus, of the 101 cases admitted into the Calcutta Medical College Hospital 84 were primiparæ. He attributes this to the fact that "the primipara is apt to be irritable, mobile, and excitable, and it is very natural that she should be so; the novel sensation incident to her situation, the dread of her approaching labour, and a degree of anxiety and apprehension as to its result, all tend to produce a state of eretheism [*? erethism*] of the nervous system strongly predisposing to convulsions."

Nine different theories—most of them well-known—are enumerated as to the causation of the disease, and we are only surprised that the author did not make his essay more complete by adding to the list the thirty or forty other theories that have from time to time been advanced to account for the condition.

The author follows most modern authorities in advocating chloroform, chloral, induction of premature labour, and the rapid emptying of the uterus as the best treatment in eclampsia, but he

does not adduce any evidence to show that the patients would not do still better if left entirely alone.

Certainly the statistics he quotes point strongly to one fact—namely, that the mortality of late years bears most unfavourable comparison with that of former years, and this is all the more significant when we remember that many of the unfavourable cases in pre-antiseptic days were directly the result of septic infection.

The Middlesex Hospital. Reports of the Medical and Surgical Registrars and Pathologist for the Year 1893. London: H. K. LEWIS. 1894. Pp. 450.

THIS somewhat belated volume represents a large amount of labour. We cannot but think that more might be made of the experience of a great London hospital, receiving for treatment 2,749 patients in the year. What that treatment may have been, unless when operations were performed, we shall vainly seek to learn. Practical medical therapeutics are almost completely ignored. Statistics, however elaborately and laboriously worked out, are of little value if they do not help us to cure. When two or more methods of treatment are recommended for a disease—and such things happen occasionally—we look to the experience of large hospitals for guidance. To these reports we shall look in vain.

The Vaccination Question: A Letter addressed, by permission, to the Right Hon. H. H. Asquith, Q.C., M.P., H.M. Principal Secretary of State for the Home Department. By ARTHUR WOLLASTON HUTTON, M.A., formerly Scholar of Exeter College, Oxford; Librarian of the National Liberal Club. London: Methuen & Co. 1894.

IN this booklet the author—an enthusiastic and accomplished, and, we feel obliged to add, a high-minded anti-vaccinationist—has collected and estimated, according to his lights, the evidence against the use of Jenner's prophylactic. The work is evidently that of a learned and conscientious man who has laboriously investigated the literature of this important question. He also possesses the enviable accomplishment of a dexterous mastership of English style. He has evidently worked earnestly and laboriously in the examination of the published evidence of the history and the

results of vaccination. His judgment is entirely unfavourable to the practice; and although experienced medical practitioners will probably be but little influenced by his conclusions, we strongly recommend the perusal of this little work to all those who are interested in one of the most important sanitary questions of the period. The author has said all that can be said against the practice, and has said it well.

Physiology for Beginners. By M. FOSTER, M.A., M.D., F.R.S., Professor of Physiology in the University of Cambridge; and LEWIS E. SHORE, M.A., M.D., Fellow of St. John's College, Cambridge, and Senior Demonstrator of Physiology in the University of Cambridge. London: Macmillan & Co. 1894. 8vo. Pp. 241.

THE name of Michael Foster on the title-page of this book disarms adverse criticism, even if such were called for. But it is not, and we congratulate Dr. Shore on having written, and Professor Foster on having supervised, so excellent an introduction to the study of Physiology.

In the opening chapters allusion is briefly made to certain chemical and physical facts, a knowledge of which is essential to the student before he begins to learn physiology. Chapter III. may also be regarded as preliminary, as it contains a succinct description of the general structure of the body, based on the dissection of a rabbit, but afterwards extended so as to convey a good idea of the cavities of the trunk and the organs contained in them in man. In Chapter IV. a very interesting account of the blood is given. Then there is a relapse into anatomy—the "Skeleton" forming the subject-matter of Chapter V., the "Joints" that of Chapter VI. These preliminary matters having been disposed of, the authors next describe the structure of the supporting tissues—cartilage, connective tissue, and bone. The structure and movements of muscle occupy Chapter VIII., and then follow, in regular order, the heart, the structure and properties of blood-vessels, the regulation of the circulation, the lymphatic circulation, respiration, digestion with a good account of food, the liver and spleen, waste and excretion, the skin, animal heat, the nervous system, the special senses (with chapters on the eye and the sense of sight, the ear and the sense of hearing); the larynx, voice and speech.

From this analysis it will be seen how comprehensive is the scope of the little book before us. It is clearly written, correctly printed by Messrs. R. & R. Clark, of Edinburgh, and is fully illustrated. A very large number of the figures have been taken, by permission, from Professor Huxley's "Elementary Lessons," and one or two from Professor Mivart's "Elementary Anatomy." The rest of the illustrations are either entirely new or modifications of well-known figures.

We do not doubt that this little book will lead many among "those who, without any previous knowledge of the subject, desire to begin the serious study of Physiology," to a true understanding of the greatness of this branch of science, its surpassing interest and its boundless wealth of research and practical application.

LEPROSY IN MADRAS.

THE following order has been passed by the Government of Madras:—The Report of the Leprosy Commission, and the conclusions as to the disease which are embodied in it, form, in the opinion of this Government, sufficient ground to warrant the refusal to assent to any measures of compulsory segregation, or of isolation and supervision of lepers in their homes, such as are advocated in the proceedings of the Committee of the National Leprosy Fund. His Excellency in Council approves of legislation for carrying out proposals (a), (b) and (d) made by the Commissioners, and for removing any obstacles in the existing law to the employment of local or municipal funds in the establishment and maintenance of leper asylums. But, while removing any such obstacles, this Government would not make provision for these purposes in any way compulsory or exercise any pressure in that direction upon local bodies. Considering the very infinitesimal danger of contagion and inoculation and the apparent decrease of the disease, and considering also the imperfect provision for general medical relief and for other objects of equal consequence which the state of their funds enables local bodies to make, this Government would leave the provision of asylums for lepers mainly to private charity. In regard to proposal (a), this Government would not legislate against prostitution. It seems impracticable to enforce rules in this matter except as part of a system of regulation of vice which, in existing circumstances, cannot be entered upon. If such rules are not allowed with a view to the prevention of the exceedingly dangerous disease of syphilis, there seems no reason to propose restrictions with reference to the very slightly dangerous disease of leprosy.

PART III.

SPECIAL REPORTS.

REPORT ON

MATERIA MEDICA AND THERAPEUTICS.*

By WALTER G. SMITH, M.D.; President of the Royal College of Physicians of Ireland; Professor of Materia Medica, School of Physic in Ireland, Trin. Coll. Dubl.; Physician to Sir P. Dun's Hospital.

THE therapeutic literature of the past year follows much the same lines as in the preceding year, and many new organic compounds have been proposed for use. Upon some of them it is too soon to form a definite judgment, and it is certain that many will not survive a year's trial.

Among the novelties noticed in the present summary are neurodin, thermodin, loretin, tolysal, hæmalbumin, ferratin, lactophenin, salacetol, dulcin, thioform, and tannigen.

Therapeutics of Iron. The vexed question of the absorption coefficient as it may be termed of iron is not yet determinately settled, and various organic substitutes for inorganic chalybeates have from time to time been proposed.

Kobert (*Deut. med. Woch.*, Juli, 1894) discusses the dietetic significance of iron, and estimates the total daily need of the body for iron at 50 mg. He points out that therapeutically vegetable food stuffs are not as appropriate for the formation of hæmoglobin as the animal food stuffs, and further that as regards milk it can only rarely yield the necessary supply of iron in disease, inasmuch as its ferruginous constituents are with difficulty decomposed by the digestive juices. He believes that preparations which contain 'blood in a form intermediate between hæmoglobin and hæmatin are absorbed in a useful form, and proposes for adoption two substances obtained by the action of reducing agents upon the blood, and which he terms hæmogallol and hæmol.—(*Brit. Med. Journ. Epit.*, Aug. 25, 1894).

* This Report is based upon an article by the writer in the "Year-Book of Treatment" for 1894.

Billig and Lang find hæmogallol serviceable in anæmia and chlorosis.

Hæmalbumin, an iron-albuminate, is proposed by Dahmen as an excellent nutritive tonic. It is soluble in alcohol and in hot water, and the dose for an adult case of chlorosis is 1 grm. three to six times a day. It is supplied by Klever of Cologne at 23 marks per kilo.—(*Deut. med. Woch.*, 1894, No. 14).

Ferratin.—Schmiedeberg and his pupil Marfori have succeeded in preparing from pig's liver an albuminous compound of iron which is termed "ferratin," and contains about six per cent. of iron. They have also prepared a similar compound artificially from white of egg and an iron salt in an alkaline medium. It is a red-brown powder little soluble in distilled water, but soluble in presence of soda. Marfori (*Ann. di Chimica e di Farmacologia*, Feb. 1, 1894) has investigated this substance, and his conclusions are as follows:—It contains from 7 to 8 per cent. of iron. It is absorbed in notable quantities from the intestines, and when injected directly into the blood stream it does not appear to be excreted either by the kidneys or the intestines save in minute quantities. This is a great contrast to what happens with the inorganic salts of iron, which are mainly excreted into the intestines. It is a remarkable fact that the liver of many animals examined is found to contain naturally a substance closely resembling the artificial ferratin and in considerable abundance. It appears to be also identical with the "hæmatogen," isolated by Bunge from the egg. Bunge proved that this substance serves as material for the formation of hæmoglobin, so that ferratin should be a really valuable blood food. Clinical experience has proved it to act in this way, and without causing any constitutional disturbances. It may be given in doses of 15 to 30 grm. daily, care being taken not to associate it too closely with acid materials.—(*Epit.*, June 16, *Archiv. exp. Pathol.*, Bd. 33, 101.)

Bauholzer confirms Schmiedeberg's statements and thinks ferratin well deserving of further trial.—(*Epit.*, *Brit. Med. Journ.*, Feb. 17, 1894, from *Centralbt. f. inn. Med.*)

ANTISEPTICS, ANTIPYRETICS, ANALGESICS.

No new antiseptic of importance has been introduced, and indeed if a practitioner really understands how to handle the two groups—viz., mercurial salts and the phenolic compounds (carbolic acid and the cresols), he will have but little need to look further.

General theory of Antipyretics.—Two interesting papers upon this important question have recently been published.

Professor v. Mering illustrates very forcibly the relations between chemical constitution and antipyretic action in the aromatic combinations.

Quinine was the only general antipyretic drug known up to the year 1875 when Buss discovered the antipyretic action of salicylic acid. This at once opened up the path for fresh discoveries. And in succession were tried other aromatic acids (benzoic, cresotinic, etc.); phenol; the diatomic phenols (resorcin, pyrocatechin, and hydrochinon); chinolin, and its derivative kairin. But all of these proved unsuitable, and were mostly highly poisonous.

Then in 1884 came the discovery by Knorr of antipyrin, and to the French observers, Lépine and See, we are indebted for teaching us its valuable antineuralgic properties. The next important addition to the list was in 1886, when Cahn and Hepp introduced acetanilide (antifebrin). It was found that the homologues of antifebrin (*e.g.*, benzanilide formanilide), exhibited a much weaker antipyretic action, and that the methyl derivative of acetanilide—*viz.*, exalgin, was too poisonous. The discovery of the antifebrile action of acetanilide gave a marked impulse to the study of the connection between chemical constitution and physiological action, and in 1887 we made the acquaintance of phenacetin—*i.e.*, oxyethyl-acetanilide or eth-acetin. In certain particulars phenacetin possesses advantages over antipyrin. The allied body, methacetin, was not found practically suitable.

Under the name euphorin, Sansoni and Giacosa in 1890 introduced phenyl-urethane, which turned out to be uncertain and dangerous. On account of the relative harmlessness of phenacetin, attention was directed to the preparation of more easily soluble derivatives of it, and so phenocoll (amido-phenacetin) was arrived at.

If we now take a rapid survey of the series of antipyretics, we are led to the conclusion that, apart from the toxic nitrogenous nuclei, amido-phenol $C_6H_4OHNH_2$, is an important mother substance as regards antifebrile and antineuralgic actions. P-amido-phenol is excreted as amido-phenol-sulphuric acid, but is too depressing for use in therapeutics (*cf.* Hinsberg und Treupel, Ueber die physiol. Wirkung des P-amido-phenols und einiger Derivate desselben.—(*Archiv. f. exp. Pathol. u. Pharm.*, Bd. 33, 216).

Pursuing his investigations and arguing that, inasmuch as phenacetin is pharmacologically superior to acetanilide so might the derivatives of P-oxyphenyl-urethane be clinically preferable to phenyl-urethane, v. Mering succeeded in producing two new products—neurodin and thermodin—which are noted below.

We wish that we had space to reproduce v. Mering's summary of his theoretical and practical investigation, but must refer our readers to the original paper.—(*Ther. Monatsh.*, Dec., 1893.)

E. Harnack contributes a lucid sketch of the present state of our knowledge of the general mode of action of antipyretic remedies.

His paper is based upon a physiological study of the relations which subsist between the two factors which control our temperature, viz., the production of heat and the loss of heat.

A body at temperature t to which in unit of time x calories are supplied and from which x calories are withdrawn, maintains its t constant. So likewise will a body which undergoes similarly a gain of $2x$ calories and isochronously a loss of $2x$ calories. Hence we have at once the key to the paradox of *fever without elevation of temperature*, an event often realised in practice. And, we may define a pyrogenous agent (poison) as one which raises the heat production of the organism, while at the same time the organism is rendered unable to correspondingly increase the loss of heat.

The mode of action of antipyretic remedies depends upon these simple principles: (1) Increased loss of heat; (2) diminished production of heat; (3) simultaneous modification of both of these processes.

Antipyretic remedies may be generally classed under three heads, viz. :—

- (1) Cold applications.
- (2) Protoplasmic actions.
- (3) Nerve actions.

Of these we may affirm that cold applications operate chiefly by promoting loss of heat, but undoubtedly most of the practically useful antipyretics belong to groups 2 and 3. In the case of quinine we have to distinguish (*a*) its beneficial effect in intermittent fevers due to its specific action upon the toxic agent, i.e., removing the *causa nocens*; and (*b*) its general antipyretic action due to a widespread protoplasmic action upon the cellular elements of the tissues in which the thermal processes go on.

But an antipyretic effect may also result in consequence of an influence over the heat-regulating nervous centres, and it is highly probable that it is to this kind of influence we may ascribe in part the antipyretic action of the relatively simply constituted benzol derivatives.

A comparison of the relative actions of phenol, anilin, and amido-phenol, with their derivatives, respectively, salicylic acid, acetanilide, phenacetin and neurodin teaches us that the more deeply substituted combination (*i.e.*, with longer and more numerous side chains) is by far the less poisonous, whereas the simple combination is too violent and too rapid to be practically available. Further, the well recognised antineuralgic action of aromatic compounds points with no uncertain indication to the paralysing action of such drugs upon the nervous apparatus, which is so clearly manifest in the simple phenols. So that in quinine the proto-plasmic action predominates, in phenol derivatives the nerve action.

Pharmacology has in these inquiries lent substantial aid to physiology, and we may now look even a little further forwards. For it is probable that in addition to the proper heat-regulating centres there exist also inhibitory arrangements for the latter. Perhaps we may account in this way for the powerful temperature depressing effect of certain tetanising poisons, and possibly conversely for the pyretic action of some poisons, *e.g.*, cocain.—(*Therap. Monatsh.* März, 1894).

Neurodin and Thermodin.—Under these empirical names v. Mering introduces two novelties prepared by Merck of Darmstadt. Neurodin is an acetyl derivative of oxyphenyl-urethane, and thermodin is an ethyl derivative. V. Mering has tested neurodin as an antipyretic in 24 cases of various fevers, and as an antineuralgic in 30 cases. Thermodin was tested in 50 cases of febrile diseases. The final result of his observations is that in doses of 1 grm. neurodin is an efficient antineuralgic and that thermodin is an excellent and safe antipyretic in doses of 0.5 to 0.7 grm. As an antalgic, thermodin requires to be administered in doses of 1½ grm. for an adult. They are given in powder.

Agathin.—Rosenbaum reiterates his recommendation of this drug in neuralgia, and gives additional cases. Usual dose 8 grs.—(*Deutsch. med. Zeit.*)

Salophen is strongly recommended by Drews in acute rheumatism in children, and in migraine. Dose 5 to 7 grs. It is easily taken as a powder.—(*Allgem. med. Centr. Zeit.*, 1894).

Salipyrin is commended by Mosengeil after two-and-a-half years' experience, and he considers it a specific for influenza. Dose, for adult, 1 grm. and upwards.—(*Deutsch. med. Zeit.*, 1893).

Malakin is reported by Bauer and Germain as an excellent anti-rheumatic. Dose, half a gram.—(*Epit., Brit. Med. Journ.*, May 12, Sept. 1, 1894).

Lactophenin is closely related to phenacetin, and instead of acetyl ($\text{CH}_3 \text{ CO}$) it contains the residue of lactic acid (CO CH OH CH_3) i.e., is a lactic acid derivative of phenetidin. It is a white crystalline body, rather more easily soluble than phenacetin. Schmiedeberg was the first to test it experimentally upon animals, and a number of clinical observations upon its action have been made by v. Jaksch, Lewandowski, Jaquet, and Geissler. It has been employed in a number of acute febrile diseases, and Roth concludes that lactophenin is worthy of being placed along with the salicylates as an anti-rheumatic. Dose, 1 to 5 grm.—(*Ther. Monatsh.*, July, 1894, *Brit. Med. Journ. Epit.*, Oct. 20, 1894).

Strauss publishes an elaborate paper upon it, and extols it as an antipyretic and sedative, especially on account of its relatively harmless qualities. He considers it will prove a powerful rival to phenacetin. It is interesting to note that we are now confronted with four competitors, all derivatives of phenetidin, i.e., ethyl-amido-phenol, $\text{C}_6 \text{ H}_4 \text{ OC}_2 \text{ H}_5 \text{ NH}_2$.

For we have:—

Phenacetin	=	acetyl-phenetidin (76 per cent. phenetidin).
Phenocoll	=	amido-aceto-phenetidin (70 " ").
Malakin	=	salicyl-phenetidin (65 " ").
Lactophenin	=	lactyl-phenetidin (56 " ").

The urine gives the reactions of phenetidin and of amido-phenol, which appears to be the antipyretic nucleus of all the above-named compounds.—(*Therap. Monatsh.*, Sept. to Oct., 1894).

Salacetol is recommended by Bourget and Barbey as an advantageous substitute for salol, inasmuch as it is not a phenol compound.—(*Therap. Monatsh.*, Dec., 1893).

The new substance is a compound of salicylic acid with acetone, and is a crystalline white powder insoluble in water, and containing about 75 per cent. of salicylic acid (salol containing about 60 per cent.). It passes undissolved through the stomach, but in contact with the alkaline intestinal juices, it slowly releases its salicylic acid, the acetol component being at the same time con-

verted into acetone and eliminated. Salicylic acid appears in the urine within half an hour after the administration of salacetol, and a dose of 2 grams is completely eliminated in twenty-four hours. The mode of administration plays an important part in the determination of the completeness and rapidity of its absorption. It appears best absorbed and most rapidly eliminated if given in a purgative oil, such as castor oil. The result of trials both in hospital and in private practice showed that salacetol given in this manner is most useful in cases of choleraic diarrhoea and kindred affections. The author has been led to discard all the usual remedies, such as opium and bismuth, &c., in favour of the new drug, which is given fasting. It is seldom necessary to repeat it next day, but there is no harm in doing so should occasion arise. From the absence of phenol, salacetol is less dangerous than salol, possessing all its advantages with few of its defects.—(Epit., *Brit. Med. Journ.*, Nov. 11, 1893).

Dulcin, proposed as a substitute for saccharin, is an aromatic derivative of urea, and is phenetol-carbamide. It is 200 to 250 times sweeter than sugar, and is pleasanter to the taste than saccharin (Kobert, *Sep. Abdr. Centralbl. f. inn. Med.*).

Tricresol.—Cresol is methyl-phenol, and in highly antiseptic and less poisonous than phenol. Commercial crude carbolic acid, and such preparations as creolin, solveol, and lysol, owe their valuable qualities mainly to their containing cresols in varying proportions. Cresol is known in three isomeric forms (ortho, meta, and para) which are difficult to separate, and Liebreich strongly recommends a mixture of the three pure cresols which is supplied by Schering of Berlin, under the name of tricresol (*Therap. Monatsh.*, Jan., 1894). Solution of tricresol in water is readily effected by the aid of soft soap.

Parachlorphenol is recommended by Elsenberg as a valuable caustic in the treatment of lupus.

Szmurlo, of Warsaw, does not approve of parachlorphenol, and finds it inferior to lactic acid or phenol.

Tolypyrrin and tolysal.—Tolypyrrin was noticed previously, and we are now presented with tolysal—i.e., the salicylic salt of tolypyrrin. This compound is vaunted as an anti-rheumatic. Dose 1-2 grammes and upwards.—(*Zurhelle. Körner. Sep. Abdr. Wien. med. Bl., und Allgem. med. Cent. Zeit.*)

Creasote and guaiacol. Benzoyl-guaiacol (benzosol) is recom-

mended by Walzer as a pleasanter drug than creasote. Dose 20-30 grs. a day, given in powder or in chocolate pastilles.

Wilcox and Gottheil extol creasote-carbonate, a syrupy yellow liquid. Dose for an adult from 1-3 teaspoonfuls, in emulsion.

Hölscher lauds guaiacol-carbonate, a crystalline body. Dose 8-7 grs.

Linossier and Lannois (*Sem. Méd.*) show that guaiacol is rapidly absorbed by the skin, and several writers speak of the antipyretic action of guaiacol when applied externally.

LOCAL REMEDIES.

Thioform, prepared by Speyer and Grund, of Frankfort, has been clinically tested by J. Schmidt. It is greyish yellow powder, and is the bismuth salt of a dithiosalicylic acid. Light and voluminous, it is insoluble in water, alcohol, and ether. It was introduced as a substitute for iodoform, but is devoid of iodine, and is rather to be compared with dermatol. When applied to fresh wounds, thioform produces rapid drying of the surface, leading to a more rapid cicatrisation than has been observed after the use of any other application; this was noticed even in extensive surface lesions, such as burns, weeping eczema, and gangrenous patches, the last-named having healed in four days. The author tested the powder in five cases of ulcer of the leg which had resisted other treatment. The ulcer having been cleaned and disinfected, the thioform was thickly dusted over it, and covered with cotton wool and a bandage. Every fourth day the whole dressing was changed, and though the patient continued to walk during the treatment, the cure required two or three weeks only. Some pain was occasionally produced, but no sign of irritation could be seen. Similar results in the practice of other surgeons are given. Finally, the author used thioform internally, after having satisfied himself as to its non-poisonous character, and with daily long-continued doses of 15 grains, better, though similar, results were obtained than with salicylate of bismuth.—(*Therap. Monatsh.*, April, 1894, and *Epit.*, *Brit. Med. Journ.*, June 9, 1894).

Tannigen, the acetic ester of tannin, has been tested by Meyer and Müller. It is a yellowish grey powder, scarcely soluble in water. Some of it can be found in the fæces, even when small doses have been given. It may be injected subcutaneously (5 per cent. borax solution). Müller has tried tannigen chiefly in diarrhoea. In most cases 2 to 5 dcg. thrice daily sufficed, but 3 to

4 g. could be given in the day without ill effects. In chronic diarrhoea improvement was soon noticed. In some phthisical patients the effect only lasted while the drug was being administered. It has been taken for weeks without any ill effects, or without the patients getting accustomed to its action. Its value in acute diarrhoea is more doubtful. It was also used in chronic inflammation of the nose and throat. Tannigen has advantages, as it is tasteless and does not harm the stomach.—(*Therap. Monatsh.*, Sept., 1894; *Epit., Brit. Med. Journ.*, Sept. 1, 1894).

Symphorol, or caffein-sulphonic acid has been proposed as a diuretic, and favourably reported on by Heinz and Liebrecht, but Ernest Waters has tried it on several patients, and in no case could any appreciable benefit be ascribed to the symphorol. The dose is 60 grains a day, in four portions of 15 grains each.—(*Brit. Med. Journ.*, June 9, 1894).

Ichthyol continues to attract attention, and a large number of papers relating to it have appeared. Various writers strongly recommend it in gonorrhoea (1, 2, and 3 per cent. solutions)—viz., Neisser, Ehrmann, and Manganotti. Freudenberg extols ichthyol suppositories in the treatment of prostatitis.—(*Centralbl. f. klin. Med.*, 1893).

Herz recommends it for the management of the sore feet of soldiers; 20 per cent. solution.—(*Aerztl. Central-Anz.*, Mai, 1894).

Villetti, of Rome, uses ichthyol with success in urethritis and cystitis. Abel has investigated its antiseptic properties. He finds that weak solutions quickly destroyed *Streptococcus pyogenes* and *Streptococcus erysipelatis*, whereas *Staphylococcus aureus* and *albus*, *Bacillus pyocyaneus*, the bacilli of enteric fever, ozaena and anthrax, and the spirillum of cholera are fairly resistant to its action. Fresh colonies of the diphtheria bacillus are easily destroyed by weak ichthyol solutions, whereas old foci are very resistant.—(*Centralbl. f. Bakter.*, 1893).

Gallanol.—Bayet and Geunon bear testimony to the usefulness of this drug in eczema and psoriasis. It is weaker in action than chrysarobin, but is free from its drawbacks.—(*Epit., Brit. Med. Journ.*, Dec. 16, 1893; Jan. 20, 1894).

Loretin is proposed as a substitute for iodoform. It is an iodine derivative of oxy-quinoline-sulphonic acid. Occurs as a yellow, odourless powder, almost insoluble in water. Fenzling and Schinzinger speak well of it as an application to wounds.—(*Deutsche Thierarzt Woch.*)

Europhen continues in favour, and is well spoken of by Ullmann (*Int. klin. Rundsch.*), Gilbert (*Balneol. Centralbl.*), and Oefelein and Neuberger (*Monatsh. f. pr. Derm.*) in soft sores, burns, ulcers of leg. It is undoubtedly an efficient and agreeable substitute for iodoform.

NARCOTICS AND SEDATIVES.

Antispasmin is the trade name for a compound of narcein-sodium with sodium salicylate. It is a white powder, easily soluble in water, and contains about 50 per cent. of narcein. Rabow and Bourget, of Lausanne, have tested its effects in hospital practice, and find that, as might have been expected from our knowledge of narcein, it is a very feeble sedative, and is about forty to fifty times weaker than morphine. Its price, too, is necessarily high, and there appears to be no valid ground for specially recommending it.—(*Therap. Monatsh.*, May, 1894).

Chloralose has been the subject of a number of inquiries, which, as a whole, are favourable and recommend it for further trial. It is a compound of chloral and glucose, and the most noteworthy point about it is the smallness of dose required, from 3 to 15 grains. In asylum practice it has been found of signal service in the treatment of insomnia. Ferranini and Casaretti (*Rif. Med.*, Aug, 1893) arrive at the following conclusions—(1) *Chloralose* is highly successful in insomnia from over-excitement of the psychical centres; it is preferable to chloral in the insomnia accompanying heart disease; it is better tolerated by the digestive tract than any other hypnotic; it acts extremely well in cases in which insomnia is due to disorders of the digestive tract; it is inferior to morphine and similar hypnotics if the insomnia is due to pain; it has no cumulative action; it acts equally well if given several evenings in succession. (2) Without causing any intolerance, *chloralose* is a certain hypnotic in doses of from 15 to 40 centigrammes given by the stomach; of 20 to 40 centigrammes by the rectum; of 5 to 10 centigrammes by the hypodermic method. The amount of tolerance both by the cardiovascular and the digestive system is remarkable. If these doses be exceeded, phenomena of poisoning may make themselves manifest similar to those seen in animals. (3) Should it happen in any case that the above doses are insufficient, it is allowable to increase them, but with great caution, noting carefully the effect of each increase of 10 centigrammes. In no case, however, should

the dose exceed 1·2 gramme, either by the mouth or rectum. (4.) In certain nervous disorders, such as hysteria and chorea, the drug may be successful in calming the convulsive phenomena in the same dose as the hypnotic ones already stated.—(Epit., *Brit. Med. Journ.*, Nov. 4, 1893).

Lombroso (*Rif. Med.*, No. 131, 1893), while admitting that chloralose is one of the least injurious of narcotics, denies that it is entirely harmless. After the administration of 0·25 g., he has seen in the case of an intelligent girl the occurrence of tremor, followed by complete loss of memory; in another case the same dose caused intense prurigo. In a third case, a dose of 0·50 g. was followed by symptoms of paresis, with threatening asphyxia.—(Epit., *Brit. Med. Journ.*, Dec. 2, 1893).

Cappelletti finds that in cases of slight insomnia 3 to 6 grs. are sufficient, but in severe insomnia 12 to 18 grs. may be necessary. Small doses should be given to the feeble or hysterical.—(Epit., *Brit. Med. Journ.*, June 9, 1894). Chambard considers chloralose specially indicated in cardio-vascular affections. It sometimes induces psychical and motor disturbances.—(Epit., *British Medical Journal*, July, 1894, from *Rev. de Méd.*, June). Touvenant confirms this. Sacaze calls attention to the fact that chloralose is not only a good hypnotic in phthisis, but also checks night sweats. He administers it in small doses (50 centigr.) and in cachets.—(Epit., *Brit. Med. Journ.*, Sept. 29, 1894, from *Sem. Méd.*) L. L'Hoest has tried chloralose extensively, and believes that it is not only an excellent hypnotic, but that as a sedative it is as efficacious as duboisin without the drawbacks of that substance.—(Epit., *Brit. Med. Journ.*, Oct. 13, 1894).

Duboisin.—This mydriatic alkaloid has been largely employed in asylum practice, and is less expensive than hyoscin. The dose is from 1 to 3 milligrams. De Moutyel, Ostermayer, Preininger, Nücke, and Mendel all report favourably of it as a sedative in insanity.—(Dr. Ringrose Atkins' Report on Nerv. and Mental Dis., *Dubl. Journ. Med. Sci.*, Aug., 1894).

Trional has been the subject of several communications. Collatz and Beyer approve of it in various forms of insanity as a safe and useful hypnotic. Rychlinski thinks trional should be preferred to all our ordinary hypnotic remedies. Bellamy finds it valuable in delirium tremens; 20 grs. every hour until sleep follows. Occasionally trional causes hæmatoporphyrinuria (Schultze) as with sulphonal.—(Epit., *Brit. Med. Journ.*, Oct. 28, 1893;

April 7 and 21, 1894; Oct 13, 1894). Stieglitz speaks well of it (reprint from *Morgagni*), also Grünfeld.—(*Pesta. med. Chir. Presse.*)

M. Vogt (*Bulletin Général de Thérapeutique*, Nov. 25, 1894) made use of this drug in several cases of insomnia in neurasthenics; the subjects were free from any painful malady to account for their loss of sleep. Usually these cases are best treated by dietetic and hygienic means, but as a rule they do not submit to the necessary discipline. Among true hypnotics, sulphonal and trional are the most manageable. Sulphonal is variable in the rapidity and manner of its action: the hypnotic effect is directly proportionate to its absorption from the intestine, and owing to its insolubility this may be prolonged. Hæmatoporphyrin in the urine has been noted from taking the drug; in such cases the urine is always strongly acid, and Professor Müller has successfully treated this symptom by high doses of the bicarbonate of soda. Trional (diethyl-sulphone-methyl-ethylin-ethane) is closely akin to sulphonal, and a little bicarbonate of soda ought to be given during the day to patients taking trional. Over sulphonal it has the great advantage of being soluble, and consequently it has a prompt action: the proper hour for administration is bedtime. The dose is from 15 to 22 grains, which produce an effect in from ten to twenty minutes. The sleep lasts from six to seven hours, and is quiet and refreshing. This last is an important advantage, and is eagerly looked for by neurasthenics; consequently in a few days a complete cure of the insomnia is effected. All are not equally benefited, and it will probably be suitable for those who sleep easily but waken again on the slightest cause. Sulphonal is usually prescribed in a hot draught, when its effects are most marked. The same practice may be followed with trional; solution is not always complete, but the particles floating on the surface of the liquid are only a small part of the dose. Its uses may be summed up as follows—(a) Trional is preferable to its congener sulphonal in its prompter action and calm sleep with a natural awakening; (b) the only dose is taken on going to bed, and if not successful when taken on two successive nights, it may be discontinued; (c) it will be used only for a few days, consequently no intoxication with the drug need be feared; (d) the degree of acidity of the urine must always be reduced; destruction of blood only takes place when the urine is strongly acid, and is always met by alkalies; (e) the constipation, occasionally following its

use, must not be neglected, to avoid a dangerous accumulation owing to defective excretion. In the subsequent discussion M. Vogt denied that he had attacked sulphonal. Trional, he considered, had not some of the disadvantages of sulphonal; in the long run the latter loses its effect. M. Paul considered sulphonal better than trional for nervous insomnia without lesion, in which cases opium is useless. It has no action either on the heart or lungs, and for cardiacs it is invaluable; but, not preventing the cough, it is useless in phthisis. He had always found the sleep tranquil with a natural awakening; no nausea or anything such as is met with after alcoholic excess. In the use of trional he had never found any advantage. He wished to know on what M. Vogt relied to diagnose the increase of the acidity of the urine; had he actually estimated the amount of uric acid? M. Vogt considered the reaction with litmus sufficient: this was a preliminary observation; he simply mentioned it as showing the necessity of alkaline drinks as a proper vehicle. M. Bardet did not consider the use of sulphonal as entirely free from disadvantage. M. Hénocque had studied the phenomena of sulphonal intoxication in animals, while investigating modifications of the oxygenation of the hæmoglobin under the use of this drug, and he should advocate the use of the drug which was best tolerated by the patient.—(*Practitioner*).

ARMY MEDICAL STAFF.

The following is the official list of successful candidates for Commissions in the Medical Staff of Her Majesty's Army, at the Examination held in London, in February, 1895:—

Order of Merit	Names	Marks	Order of Merit	Names	Marks
1.	Smith, L. F.	- 2,580	7.	Maurice, G. T. K.	- 2,172
2.	Fairrie, S. H.	- 2,410	8.	Gunter, F. E.	- 2,077
3.	Blackham, R. J.	- 2,352	9.	Campbell, J. H.	- 1,819
4.	Forrest, J. V.	- 2,245	10.	Grech, J.	- 1,761
5.	Grattan, H. W.	- 2,185	11.	Dee, P.	- 1,756
6.	Fawcett, R.	- 2,175	12.	O'Leary, E. G. E.	- 1,611

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.
General Secretary—WILLIAM THOMSON, F.R.C.S.I.

SECTION OF PATHOLOGY.

President—DR. J. A. SCOTT.
Sectional Secretary—J. B. STORY.

Friday, November 30, 1894.

The PRESIDENT in the Chair.

Notes on a Case of Acromegaly.

MR. A. H. BENSON read notes on a case of Acromegaly with Ocular Complications, and exhibited the patient.

DR. BAKER exhibited a cast of the patient's mouth.

MR. SWANZY expressed the gratitude the Section owed to Mr. Benson for the exhibition of this most interesting case. He concurred as to the diagnosis and treatment of the disease. Hemianopia was one of the most constant ocular symptoms of this disease. It existed in this case first as colour blindness of the temporal side of each field, and afterwards as partial blindness of the temporal side of each field. Central scotoma was not a usual symptom, but it is very probable that this was due to a toxic amblyopia caused by excessive tobacco smoking, and had nothing to do with the acromegaly. Dr. Cunningham had endeavoured to show that the skeleton of M'Grath in Trinity College, Dublin, was that of a patient suffering from this disease. The pituitary fossa was so large that you could easily put a walnut into it. Neighbouring bony structures were obliterated, and we must suppose that the optic tracts and some of the ocular nerves were pressed upon. It is very probable that his right eye was completely blind, and that the left half of the left visual field was also a blank. It is, moreover, very curious that in any account we have of the giant no mention is made of any defect of sight, so the above conclusions must be more or less speculative.

MR. BENSON said he wished to state, in conclusion, that he had the patient photographed in various postures. The peculiar stoop, the large size of the thorax, and the small size of the buttocks as compared with the legs were well shown.

A Case of Typhoid Fever, with rare and rapidly Fatal Complications.

MR. A. R. PARSONS read a paper on the above subject, and exhibited a portion of the small intestine, the spleen, and the larynx of the patient.

DR. DAWSON said that in his experience laryngeal complications in typhoid fever were not very rare. There was often a certain amount of sore throat. Ulcerations of two different types had been regarded as probable—one a diphtheritic ulceration, and the other, although this had not been conclusively proved, due to the typhoid bacillus. Its existence in the blood and its power of causing ulceration in the intestine was evident, and it was easy to imagine that it could cause ulceration elsewhere. The present case he did not think to be one of diphtheritic ulceration, judging from the sections of tissue removed from the larynx.

DR. J. W. MOORE, having inspected the ulcers present in the small intestine, said that as far as he could judge they were ulcers of typhoid fever, from which the sloughs had come away. He said he considered that sometimes portions of the system other than the intestines—as, for instance, the lungs—bore the brunt of the disease.

DR. CROLY, who had performed tracheotomy on the patient, said that never before in his experience had he met with a case of typhoid fever presenting this severe laryngeal complication, and, moreover, he had never been troubled with emphysema as a sequel to any tracheotomy he had previously done. In the performing of the operation he emphasised the importance of opening the trachea as soon as possible to check venous bleeding; of cutting a piece out of the trachea, not merely making a slit in it; and of scraping away the deep layer of the cervical fascia, lest it should form a sort of valve over the opening in the trachea by the opening in the fascia not remaining exactly over the opening in the trachea. He had heard of a case in which this fact led to the death of the patient. He said he was unable to explain the occurrence of the emphysema. There was nothing peculiar in this case previously except that the trachea was very deep.

DR. HAWTREY BENSON said that during his 27 years' experience in Baggot-street Hospital he had never met with a similar case.

DR. PARSONS, in replying, stated that Dr. Bewley had drawn his attention to a statement in Eulenberg's Encyclopædia of Practical Medicine, where it was alleged that twenty per cent. of the cases of typhoid which die had ulceration of the larynx. In a few cases extensive emphysema had been observed.

Typhoid Ulcers.

DR. BEWLEY exhibited some typhoid ulcers, and shortly described the case from which they were taken.

DR. PURSER said that the small size of the ulcers and their transverse direction was extremely interesting. He had recently had a similar case in Sir P. Dun's Hospital under his care. It was that of a young woman, who apparently suffered from a mild attack, whose temperature was going down, and who seemed to be getting well. She developed one day erysipelas of the face, which limited itself to one side and did not pass the mesial line. After this her temperature, which had of course risen, did not fall, and she began to complain of vague pains in the abdomen, and she gradually sank and died. At the *post-mortem* it was found that there was a non-purulent "sticky" peritonitis limited to one iliac region, and that a perforation had occurred about eighteen inches from the end of the ileum. On opening the intestine several small transverse ulcers were seen without any infiltration of the edges. One had perforated, and another was on the point of perforating.

The Section then adjourned.

SECTION OF MEDICINE.

President—WALTER G. SMITH, M.D., President of the Royal College of Physicians of Ireland.

Sectional Secretary—A. N. MONTGOMERY, M.R.C.P.I.

Friday, December 14, 1894.

The PRESIDENT in the Chair.

Exhibits.

DR. J. O'CARROLL—Case of Bilateral Peroneal Neuritis.

DR. A. R. PARSONS—A boy, aged ten years, with a rhythmical tremor, involving the little finger of each hand.

A Case of Argyria.

DR. H. C. TWEEDY exhibited a case of argyria. The patient, who was a man seventy-seven years of age, had been admitted to Madam Steevens' Hospital in 1871, with symptoms of locomotor ataxy, for which he was put on a course of nitrate of silver. He was again an inmate of the hospital in 1873, 1876, and 1882, on the last of which occasions the discoloration of the skin was plainly manifested, he having continued the use of the nitrate of silver during that long period. His ataxic symptoms had completely disappeared in 1882, nor have they ever returned to any appreciable extent up to the present time. Dr. Tweedy

drew attention to the following facts regarding this now somewhat rare condition:—1. That reduction of the silver salts administered takes place in the stomach and afterwards in the intestinal canal. 2. The reduced silver finds its way to the organs of the body through the lymphatic passages. 3. It is not eliminated by the urinary organs or by the intestines. 4. It does not, as a rule, produce any material effect upon the health.

Some sections of the skin of the under-eyelid, prepared by Dr. Earl, were upon exhibition, as well as the patient himself, whose skin was of a uniform dark slaty blue, which was most intense upon the face and neck. The sections showed with great clearness the deposit of the metal in the connective tissue, in the form of black and dark-brown granules.

Dr. Tweedy concluded by remarking that there could be no doubt that the nitrate of silver had in this case produced very marked and beneficial results, for not only had the ataxic symptoms completely disappeared for the past ten years, but during the early progress of the case each time the symptoms reappeared they were promptly relieved by the nitrate of silver; and as the case had been practically under observation for 23 years, this had happened with too great regularity to have been merely coincidental.

THE PRESIDENT said that our knowledge of the action of the heavy metals had increased of late years. Thus we now knew that they all tend to affect the peripheral nerves largely, and the central nervous system more or less, and many of them—for instance, arsenic and antimony—tend to produce fatty degeneration of the organs of the body. Silver, on account of its not forming a soluble compound with the tissues or the juices of the body, was extremely slowly absorbed. It is, moreover, very slowly eliminated. The smallest quantity on record as having produced argyria is 15 grammes, equivalent to about 230 grains. Silver is the only metal reduced in the animal body on a large scale. The organic matter of the body caused the reduction, and the aid of light is not necessary. Light, no doubt, accelerates the change. In the body the silver deposit is restricted almost entirely to the white and elastic connective tissue fibres. The deposit is probably not entirely metallic silver, for if you decolorise the tissues with strong nitric acid, and remove the silver nitrate which is formed, you can still obtain a reaction from silver present in the decolorised tissues.

Arsenical Multiple Neuritis.

DR. ALFRED R. PARSONS read a paper on Arsenical Multiple Neuritis, illustrated by the clinical notes of a case in which well-marked motor, sensory, and trophic disturbances followed the application of a "cancer cure" to the breast of a woman aged twenty-eight years. The "cure," examined by Reinsch's method, was found to contain a large quantity of

arsenic. The patient, "cure," and crystals of the oxide of arsenic obtained from the latter, were exhibited.

THE PRESIDENT said that arsenic was rapidly absorbed, as it formed no albuminate, and so offered no obstacle to its own absorption. Not only can it be absorbed from a broken surface on the exterior of the body, but it can be absorbed through the lungs by inhalation. The fact that it forms no albuminous compound, explains why it forms such an excellent paste for dentists treating carious teeth. It is thus enabled to penetrate into all the recesses of the cavity. The oxygen compounds of arsenic are highly poisonous, but when the arsenical molecule is combined with carbon, the poisonous property is greatly lessened. A very remarkable fact sometimes following the administration of arsenic, whether given by the mouth or absorbed from the skin, was the intensity of the intestinal symptoms, and this without any ulceration of the intestine. It is supposed to be due to an intense hyperæmia. The fall in the blood-pressure after a large dose of arsenic or antimony was also very noteworthy. It was strange that in this case there was no implication of the skin. Pigmentation, due to arsenic, differs according as the skin is healthy or unhealthy. If healthy, the pigmentation is diffuse and punctate; if unhealthy, as in eczema, the pigmentation is limited to the diseased portions. Arsenic was very rapidly excreted by the kidneys. In a case in which it was applied to the cervix uteri for cancer, it was detected in the urine within 8 hours.

MR. WERNER said that he had met with a similar "cancer cure" some years ago, which was brought to him by a medical student for analysis. It was a mixture of charcoal and arsenic. Sometimes these "cures" consisted of inert and harmless powders. One to cure deafness consisted of 3 or 4 grains of arrowroot, while other powders guaranteed to cure all tumours were nothing more than sugar of milk.

The Section then adjourned.

SECTION OF SURGERY.

President—W. THORNLEY STOKER, President of the Royal College of Surgeons in Ireland.

Sectional Secretary—KENDAL FRANKS, F.R.C.S.I.

Friday, January 4, 1895.

The PRESIDENT in the Chair.

Notes on a Series of 100 Cataract Extractions.

MR. J. B. STORY read a paper upon a series of 100 operations for senile cataract, including both complicated and uncomplicated cases.

Only two eyes out of the 100 were lost—both by wound infection. In eight cases the vision obtained was less than $\frac{8}{80}$, and three cases, though surgically successful, remained with only perception of light owing to pre-existing disease of other portions of the eye. In forty-two cases simple extraction was done (without iridectomy). Forty-six combined extractions were done, and twelve extractions after preliminary iridectomy. Mr. Story dwelt upon the importance of thorough asepsis as the principal factor in determining the result of a cataract extraction, and stated that his experience as yet was not sufficient to enable him to decide upon the comparative merits of the simple operation and the extraction combined with iridectomy. So far as the present series was concerned the results were slightly better in the cases where no iridectomy was done, although in 12 per cent. of the cases prolapse of the iris occurred. All these cases of prolapse turned out well, and obtained good sight, but the dangers of prolapse would always be a drawback to the universal adoption of the simple operation for all cases. The section advocated by Mr. Story was the 3 mm. flap as proposed by Dr. Wecker, and first performed in this country by Mr. Story in 1879. In the present series no conjunctival flap had been made, but Mr. Story stated that he has since reverted to a conjunctival flap, and aims at making it now in all cases.

MR. SWANZY thanked Mr. Story for his paper, but thought that as the operations were done by different operators and by different methods, the deductions from the good results would not be so valuable as they otherwise would have been. He thought that cases which were found to be complicated even although they were not diagnosticated before operation should be excluded from the list. It was impossible to diagnosticate certain complications, for instance central chorioiditis, before operation. He thought that the cases of wound infection were too many. He had done 270 operations, not taking into account traumatic cataracts, and had had only two cases of suppuration, both of which had occurred in the first 100 cases. The method of antisepsis employed was as follows. The eyelids were everted and the eyes thoroughly washed with 1 in 10,000 corrosive sublimate. Any solutions, as those of atropine or eserine, were made up with the same solution. The instruments were sterilised by boiling, and then put into a bath of weak carbolic lotion from which they were taken. The dressings were also dipped in corrosive sublimate solution and oil silk put over them to prevent them drying. On the whole he preferred not having a conjunctival flap, although he did not think it a matter of much importance. He did not understand what the preliminary iridectomy was done for in 12 of the cases. He never did it except to ripen a cataract. He always used the "combined" in preference to the "simple" operation. In the simple operation you run the risk that the iris may prolapse and become incarcerated in the wound

and may give rise to bad results, occurring not only at the time but also at a remote period. In the combined operation the point is to make a narrow and not a wide iridectomy. It is quite sufficient to prevent prolapse of the iris; and it does not interfere with the acuteness of vision as the wide does.

MR. A. H. BENSON also spoke.

MR. STORY, replying, said there were only 6 of the operations not done by himself. If complicated cases which were discovered after operation were not to be taken into account, then cases of wound-infection could be omitted, as it was a complication. The antiseptics employed by Mr. Swanzy was much the same as his except that corrosive sublimate solution was used instead of boiled boric acid solution. Three cases of preliminary iridectomy were done to ripen the cataract. He did not think prolapse of the iris so dangerous a thing as Mr. Swanzy seemed to think, as good results followed in the five cases which had occurred with him.

On a method of restoring the Lower Lip after Excision for Cancer.

MR. JOHN LENTAIGNE read a paper describing a method of restoring the lower lip and the soft parts covering the chin which he had employed in four cases of advanced cancer of these parts, with exceptionally satisfactory results from an æsthetic point of view, and so far as he had been able to learn, without any recurrence of disease. The operation consisted in removing the diseased tissues in a square piece between vertical incisions—one on each side and a horizontal incision below parallel to the free border of the lip. These three incisions must be carried through perfectly sound tissues only, and at least a quarter of an inch of apparently sound tissue should everywhere lie between them and the nearest margin of the diseased mass. In this way the position of the incisions would vary with the extent of the disease. The flap which was to form the new lip was then taken from the tissues under the chin and on the upper part of the front of the neck by prolonging the two vertical incisions downwards as far as might be necessary, and dissecting off the quadrilateral flap between them. This was then drawn upwards to form the new lip and front of the chin, and was fixed *in situ* by wire sutures, a drainage-tube having first been inserted in the middle line at the centre of the lowest part of the flap, so as to allow of free drainage from the pouch under the chin. The head should be bent towards the sternum and fixed in that position until the flap becomes firmly adherent in its new position.

When preparing his paper Mr. Lentaigne had learnt, for the first time, that the principle of the operation was not new; it had been long before introduced by the great French surgeon Chopart, and was described in many French text-books on operative surgery as the "*procédé de*

Chopart," but there was no mention of it or anything like it in any English work that he had seen. In the first case he had performed Chopart's operation pure and simple with a fairly good result. In the three latter cases he had modified the procedure with a much better result; the patients were free from deformity of any kind, and, except for the lines of incision, there was little to show that they had been subjected to such a severe operation. The new lip invariably became covered with mucous membrane, and seemed to be quite efficient and satisfactory. He was strongly of opinion that the operation deserved to be revived as it was in his opinion by far the best for a considerable number of cases.

The advantages of the operation were that it allowed of a very thorough removal of the disease, while at the same time it gave a very perfect result from an æsthetic point of view, it allowed of an effective exploration of the submental and submaxillary spaces—a step which should always be thoroughly carried out in all cases of advanced cancers of the lower lip. Mr. Lentaigne laid great stress on the importance of carrying out certain specified details connected with the fixing and dressing of the large flap and the after treatment of the case, and he expressed himself as strongly of opinion that unless these details were rigidly adhered to, the operation should not be performed. In none of his cases had the vitality of the huge flap been in any way visibly impaired, but he could easily imagine how neglect of these details might result in sloughing and leave the patient in a position almost worse than he had been in before the operation.

The PRESIDENT said that he had never seen a better restoration of the lip than the one exhibited here, which was done by Mr. Lentaigne by this method. He would, however, hardly accept it as a universal method. It would not be applicable to persons with a projecting jaw and with a smaller quantity of connective tissue. He thoroughly agreed with Mr. Lentaigne as to the importance of fixing the flap by applying pressure. He would like to know the most suitable material for applying pressure. He thought absorbent cotton the best, as wool became dry and hard in 24 hours.

MR. THOMSON thought that where the disease extended well down towards the chin the method would be excellent. He had himself got very good results by using Buchanan's method of two lateral flaps. He fixed the flaps to the divided soft tissue on the chin with a hair-lip pin, for 4 or 5 days, and had not found it necessary to apply pressure.

MR. KENDAL FRANKS thought that the situation of the scars in Chopart's method would disfigure the patient less than the lateral flap method. In order to keep the parts aseptic he proposed painting over the surface of the new lip with Whitehead's varnish.

MR. F. NIXON thought that one great advantage of the method was that the submaxillary lymphatic glands could be examined.

MR. LENTAIGNE said that he did not mean that this operation should supersede all others. It was required only where the whole lower lip was diseased. The material used for dressing was gauze and wood wool, which was changed as soon as it was soaked, and then a flannel bandage with starch, which fixed the part. The incision need not extend much below the border of the chin if the disease was not very extensive. It must in all cases, however, cross the border of the chin in order to get to the flexible skin of the neck. He did not think the results from Buchanan's operation were as good as from this. In Malgaigne's operation the mouth is too small.

The Section then adjourned.

GAILLARD'S MEDICAL JOURNAL.

THIS monthly periodical, published in New York, began its fifty-eighth volume in January. This number offers over 100 pages, well printed on excellent paper, of valuable matter—including three original articles, an original translation of a French paper, and miscellaneous selections of the usual kind. We note that "a department of Bacteriology" has recently been added, "the first innovation that has been made for many years." We quote as interesting to many a description of the new Pharmacopœia of the United States:—"The number of articles which have been added to the Pharmacopœia is 88, of which 36 are pharmaceutical preparations. There have been dismissed 90, of which 50 are pharmaceuticals. Though there is practically an equality between the number of those dismissed and those added, the edition is considerably enlarged, containing 114 pages more than that of 1880. In many instances the explanatory text has been increased by more explicit descriptions, directions, or tests. What may be called the appendix, consisting of nearly 100 pages, is a most valuable, even indispensable, feature. There is a list of 116 test solutions, 19 volumetric reagents, together with a list of all volumetric assays directed in the Pharmacopœia, directions for gasometric estimations, alkaloidal assays, &c., and some most carefully prepared tables of atomic and molecular weights, thermometric equivalents and percentages of alcohol, and various acids and alkalies in solution. These are followed by saturation tables and equivalents of weights and measures. Inasmuch as the metric system of weights and measures has been adopted to the exclusion of all others, the last-named tables will be of considerable service in familiarising pharmacists with this official standard.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.; F.R.C.P.I.;
F.R.Met. Soc.; Diplomat in State Medicine and ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS

For four Weeks ending Saturday, February 23, 1895.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns	Weeks ending				Towns	Weeks ending			
	Feb. 2.	Feb. 9.	Feb. 16.	Feb. 23.		Feb. 2.	Feb. 9.	Feb. 16.	Feb. 23.
Armagh -	42·1	28·0	28·0	21·0	Limerick -	39·3	26·7	61·7	46·3
Belfast -	29·8	31·9	37·0	34·0	Lisburn -	29·8	25·7	34·1	25·7
Cork -	33·9	27·7	36·7	44·3	Londonderry	25·1	25·1	25·1	22·0
Drogheda	17·6	4·4	30·7	39·5	Lurgan -	59·3	45·6	63·9	27·4
Dublin -	30·1	30·3	33·0	34·3	Newry -	20·1	44·3	28·2	48·3
Dundalk -	25·1	8·4	16·3	25·1	Sligo -	66·0	15·2	30·6	20·3
Galway -	79·3	64·2	30·2	41·5	Waterford -	27·5	22·5	27·5	42·5
Kilkenny	23·6	14·2	28·3	42·5	Wexford -	18·1	18·1	40·6	31·6

In the week ending Saturday, February 2, 1895, the mortality in thirty-three large English towns, including London (in which the rate was 19·0), was equal to an average annual death-rate of 19·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 23·9 per 1,000. In Glasgow the rate was 26·5, and in Edinburgh it was 22·8.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 31·5 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3·3 per 1,000, the rates varying from 0·0 in seven of the districts to 27·4 in Lurgan—the 13 deaths from all causes registered in that district comprising 4 more from measles, 1 from scarlatina, and 1 from whooping-cough. Among the 156 deaths from all causes registered in Belfast are 15 from measles (an increase of

11 as compared with the number of deaths from that disease in the preceding week), 4 from whooping-cough, 2 from diphtheria, and 3 from diarrhoea. The 49 deaths in Cork comprise 5 from whooping-cough. Among the 28 deaths in Limerick are 1 from scarlatina and 1 from enteric fever. The 16 deaths in Londonderry comprise 1 from enteric fever and 1 from diarrhoea. One death from small-pox was registered in Newry. The Registrar for Newry No. 2 District remarks:—"One case of small-pox in district, which was promptly removed to hospital. The public, in large numbers, being re-vaccinated."

In the Dublin Registration District the registered births amounted to 223—110 boys and 113 girls; and the registered deaths to 214—110 males and 104 females.

The deaths, which are 1 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 31·9 in every 1,000 of the population. Omitting the deaths (numbering 12) of persons admitted into public institutions from localities outside the district, the rate was 30·1 per 1,000. During the first five weeks of the current year the death-rate averaged 32·6, and was 1·9 under the mean rate in the corresponding period of the ten years 1885—1894.

The number of deaths from zymotic diseases registered was 20, being 4 below the average for the corresponding week of the last ten years, and 6 under the number for the previous week. The 20 deaths comprised 5 from small-pox, 1 from scarlet fever (scarlatina), 3 from whooping-cough, 1 from ill-defined fever, 3 from enteric fever, 3 from diarrhoea, 1 from erysipelas, and 1 from cerebro-spinal meningitis. Of the 5 persons who died from small-pox, 2 (aged respectively 9 and 50 years) had been vaccinated; 2 (aged respectively 2 and 9 years) were unvaccinated; and as regards the remaining case the return contained no statement as to vaccination.

The number of cases of small-pox admitted to hospital was 69, being an increase of 5 as compared with the admissions in the preceding week, and 8 over the number for the week ended January 19. Sixty-four small-pox patients were discharged, 5 died, and 171 remained under treatment on Saturday, being equal to the number in hospital at the close of the preceding week. This number is exclusive of 131 convalescent patients in the South Dublin Union Small-pox Hospital, Kilmainham.

Ten cases of enteric fever were admitted to hospital against 8 in the preceding week: 9 patients were discharged, 2 died, and 49 remained under treatment on Saturday, being 1 below the number in hospital on that day week.

The hospital admissions for the week included, also, 7 cases of scarlatina, being 3 over the number of cases from that disease admitted during the preceding week. Seventy-three cases of the disease remained under

treatment on Saturday, being 1 under the number in hospital at the close of the preceding week.

The number of deaths from diseases of the respiratory system was 59, being 3 over the average for the corresponding week of the last ten years and 11 in excess of the number for the previous week. The 59 deaths comprise 44 from bronchitis, 8 from pneumonia or inflammation of the lungs, 2 from croup, and 1 from pleurisy.

In the week ending Saturday, February 9, the mortality in thirty-three large English towns, including London (in which the rate was 21·0), was equal to an average annual death-rate of 20·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 26·2 per 1,000. In Glasgow the rate was 32·4, and in Edinburgh it was 20·5.

The average annual death-rate in the sixteen principal town districts of Ireland was 29·7 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·5 per 1,000, the rates varying from 0·0 in twelve of the districts to 9·1 in Lurgan—the 10 deaths from all causes registered in that district comprising 1 more from measles and 1 from whooping-cough. Among the 167 deaths from all causes registered in Belfast are 5 from measles (a decrease of 10 as compared with the number of deaths from that disease in the preceding week), 2 from scarlatina, 6 from whooping-cough, 2 from diphtheria, 3 from enteric fever, and 2 from diarrhoea. The 40 deaths in Cork comprise 3 from whooping-cough. The Registrar for Newry No. 2 District remarks:—“Two cases of small-pox, both of which were removed to hospital.”

In the Dublin Registration District the registered births amounted to 159—82 boys and 77 girls; and the registered deaths to 214—88 males, and 126 females.

The deaths, which are 8 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 31·9 in every 1,000 of the population. Omitting the deaths (numbering 11) of persons admitted into public institutions from localities outside the district, the rate was 30·3 per 1,000. During the first six weeks of the current year the death-rate averaged 32·5, and was 1·4 under the mean rate in the corresponding period of the ten years 1885–1894.

The number of deaths from zymotic diseases registered was 23, being 2 above the average for the corresponding week of the last ten years, and 3 over the number for the week ended February 2. The 23 deaths comprise 7 from small-pox, 1 from scarlet fever (scarlatina), 1 from influenza, 5 from whooping-cough, 4 from enteric fever, 2 from dysentery, and 1 from erysipelas. Of the 7 persons who died from

small-pox, 2 (aged respectively 28 and 36 years) had been vaccinated and 5 (aged respectively 5, 32, 34, 53, and 55 years) were unvaccinated.

The number of cases of small-pox admitted to hospital was 60, being a decrease of 9 as compared with the admissions for the preceding week, and 4 under the number for the week ended January 26: 84 small-pox patients were discharged, 6 died, and 141 remained under treatment on Saturday, being 30 under the number in hospital at the close of the preceding week. This number is exclusive of 142 convalescent patients in the South Dublin Union Small-pox Hospital, Kilmainham.

Seven cases of enteric fever were admitted to hospital against 10 admissions in the preceding week. Eleven enteric fever patients were discharged, 3 died, and 42 remained under treatment on Saturday, being 7 below the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 6 cases of scarlatina, being 1 under the number of cases of that disease admitted during the preceding week. Sixty-seven cases of the disease remained under treatment on Saturday, being 6 under the number in hospital that day week.

Fifty-six deaths from diseases of the respiratory system were registered, being 6 over the average for the corresponding week of the last ten years, but 3 under the number for the previous week. The 56 deaths comprised 38 from bronchitis and 18 from pneumonia or inflammation of the lungs.

In the week ending Saturday, February 16, the mortality in thirty-three large English towns, including London (in which the rate was 29·2), was equal to an average annual death-rate of 26·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 35·1 per 1,000. In Glasgow the rate was 43·0, and in Edinburgh it was 26·8.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 35·3 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·7 per 1,000, the rates varying from 0·0 in seven of the districts to 13·7 in Lurgan—the 14 deaths from all causes registered in that district comprising 3 more from measles. Among the 194 deaths from all causes registered in Belfast are 11 from measles (an increase of 6 as compared with the number of deaths from that disease in the preceding week), 1 from scarlatina, 6 from whooping-cough, 3 from enteric fever, and 1 from diarrhoea. Two deaths from small-pox were registered in Newry. The Registrars for St. Mary's District in Drogheda Union and Lurgan No. 1 District report that one case of small-pox occurred in each of their districts, and the Assistant-Registrar for Sligo No. 1 District states that the disease has broken out there and

that the cases have been removed to hospital: no deaths from the disease were registered in any of those three districts.

In the Dublin Registration District the registered births amounted to 248—133 boys and 115 girls; and the registered deaths to 229—97 males and 132 females.

The deaths, which are 14 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 34·2 in every 1,000 of the population. Omitting the deaths (numbering 8) of persons admitted into public institutions from localities outside the district, the rate was 33·0 per 1,000. During the first seven weeks of the current year the death-rate averaged 32·7, and was 0·9 under the mean rate in the corresponding period of the ten years, 1885–1894.

The number of deaths from zymotic diseases registered was 23, being 1 over the average for the corresponding week of the last ten years, and equal to the number for the previous week. The 23 deaths comprise 8 from small-pox, 3 from influenza and its complications, 1 from whooping-cough, 1 from diphtheria, 2 from enteric fever, 3 from diarrhoea, 2 from dysentery, and 1 from erysipelas. Of the 3 persons who died from small-pox, 3 (aged respectively 17, 23, and 45 years) had been vaccinated, 3 (aged respectively 19, 22, and 23 years) were unvaccinated; and as regards the remaining cases the returns contained no statement as to vaccination.

The number of cases of small-pox admitted to hospital was 56, being a decline of 4 as compared with the admissions in the preceding week, and 13 under the number for the week ended February 2. Forty-three small-pox patients were discharged, 5 died, and 149 remained under treatment on Saturday, being 8 under the number in hospital on that day week. This number is exclusive of 115 convalescents in the South Dublin Union Small-pox Hospital, Kilmainham.

Only 4 cases of enteric fever were admitted to hospital, being 3 under the admissions in the preceding week. Ten patients were discharged, and 36 remained under treatment on Saturday, being 6 under the number in hospital at the close of the preceding week.

The hospital admissions included, also, 6 cases of scarlatina, being equal to the number of cases of that disease admitted during the preceding week. Twenty-two scarlatina patients were discharged, and 51 cases of the disease remained under treatment on Saturday, being 16 under the number in hospital at the close of the preceding week.

Sixty-two deaths from diseases of the respiratory system were registered, being 7 above the average for the corresponding week of the last ten years, and 6 over the number for the week ended February 9. They comprise 45 from bronchitis and 13 from pneumonia or inflammation of the lungs.

In the week ending Saturday, February 23, the mortality in thirty-three large English towns, including London (in which the rate was 34·0), was equal to an average annual death-rate of 29·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 41·1 per 1,000. In Glasgow the rate was 51·0, and in Edinburgh it was 38·0.

The average annual death-rate in the sixteen principal town districts of Ireland was 35·1 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 2·7 per 1,000, the rates varying from 0·0 in six of the districts to 16·1 in Newry—the 12 deaths from all causes registered in that district comprising 4 more from small-pox. Among the 178 deaths from all causes registered in Belfast are 7 from measles, 2 from whooping-cough, 6 from enteric fever, and 1 from diarrhoea. The 64 deaths in Cork comprise 6 from whooping-cough and 1 from diarrhoea. The Registrar for St. Mary's District in Drogheda Union states:—"One case of small-pox occurred in my district last week and another has occurred to-day." The Registrar of Lurgan No. 1 District remarks:—"One death from small-pox, but not yet registered—only the one case has occurred so far." The Registrar for Kilkenny No. 1 District states:—"One case of small-pox, no other case up to the present; every precaution has been taken by the Sanitary Authority to prevent spread of disease." The Assistant-Registrar for Sligo No. 1 District reports:—"No death from small-pox; no fresh cases in town since first family was attacked two weeks ago; 4 cases in a school 3½ miles out (very mild form, all doing well)."

In the Dublin Registration District the registered births amounted to 219—112 boys and 107 girls; and the registered deaths to 235—105 males and 130 females.

The deaths, which are 25 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 35·1 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 34·3 per 1,000. During the first eight weeks of the current year, the death-rate averaged 33·0, and was 0·3 under the mean rate in the corresponding period of the ten years 1885–1894.

The number of deaths from zymotic diseases registered was 18, being 2 below the average for the corresponding week of the last ten years, and 5 under the number for the week ended February 16. The 18 deaths comprised 6 from small-pox, 1 from scarlet fever (scarlatina), 4 from influenza and its complications, 1 from whooping-cough, 1 from diphtheria, 1 from enteric fever, 1 from diarrhoea, and 1 from erysipelas. Of the 6 persons who died from small-pox, 2 (aged respectively 18 and 38 years) had been vaccinated, and 4 (aged respectively 20 days, 21 days, 28 years, and 33 years) were unvaccinated.

The number of cases of small-pox admitted to hospital was 37, being a decrease of 19 as compared with the admissions in the preceding week, and 23 under the number for the week ended February 9. Forty-four small-pox patients were discharged, 7 died, and 135 remained under treatment on Saturday, being 14 under the number in hospital at the close of the preceding week. This number is exclusive of 119 convalescent patients in the South Dublin Union Small-pox Hospital, Kilmainham.

The respective numbers of deaths from small-pox registered in the Dublin Registration District during the eight weeks since the close of last year have been 5, 11, 10, 7, 5, 7, 8, and 6, all except 5 of which occurred in hospital; and the admissions to hospital for the same weeks have been 71, 88, 61, 64, 69, 60, 56, and 37 respectively. Since the outbreak began last July the admissions of small-pox patients to hospital have been 1,137, and the deaths 127.

Six cases of enteric fever were admitted to hospital, being 2 over the admissions in the preceding week, but 1 under the number in the week ended February 9. Six enteric fever patients were discharged, and 36 remained under treatment on Saturday, being equal to the number in hospital on that day week.

The hospital admissions for the week included, also, 8 cases of scarlatina, being 2 over the number of cases of that disease admitted during the preceding week: 45 cases of the disease remained under treatment on Saturday, being 6 under the number in hospital at the close of the preceding week.

Deaths from diseases of the respiratory system, which had risen from 56 for the week ended February 9 to 62 in the following week, further rose to 82, or 26 above the average for the corresponding week of the last ten years. They comprise 60 from bronchitis and 17 from pneumonia or inflammation of the lungs.

METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat 53° 20' N.,
Long. 6° 15' W., for the Month of February, 1895.*

Mean Height of Barometer,	-	-	30·111 inches.
Maximal Height of Barometer (on 16th, at 9 p.m.),	-	-	30·548 „
Minimal Height of Barometer (on 6th, at 9 p.m.),	-	-	29·576 „
Mean Dry-bulb Temperature,	-	-	33·6°.
Mean Wet-bulb Temperature,	-	-	31·5°.
Mean Dew-point Temperature,	-	-	27·3°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	·150 inch.
Mean Humidity,	-	-	77·9 per cent.
Highest Temperature in Shade (on 28th),	-	-	48·6°.
Lowest Temperature in Shade (on 7th),	-	-	19·0°.
Lowest Temperature on Grass (Radiation) (on 7th),	-	-	10·4°.
Mean Amount of Cloud,	-	-	55·0 per cent.
Rainfall (on 9 days),	-	-	·625 inch.
Greatest Daily Rainfall (on 6th),	-	-	·310 inch.
General Directions of Wind,	-	-	E., S.E.

Remarks.

The coldest February experienced for forty years—that is, since 1855—the “Crimean winter.” The mean temperature was 8·6° below the average, 10·7° below that of February, 1894, and 1·4° below that of January, 1895. There was an overwhelming prevalence of strong easterly and south-easterly winds. The rainfall was very scanty, and consisted principally of snow and hail. Absolute drought held from the 7th to the 20th, inclusive. On several occasions the thermometer fell below zero in the screen in various parts of the United Kingdom, the lowest recorded reading of all being —17° at Braemar on the 11th.

In Dublin the mean temperature (34·2°) was 8·6° below the average (42·8°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 33·6°. In the thirty years ending with 1894, February was coldest in 1873 (M. T. = 37·9°), and warmest in 1869 (M. T. = 46·7°). In 1886 the M. T. was 39·7°. In the year 1879 (the “cold year”) it was 40·1°. In 1888 it was as low as 38·6°; in 1889 it was 40·3°; in 1890, 41·5°; in 1891, 44·7°; in 1892, 41·3°; in 1893, 42·7°; and in 1894 44·9°.

The mean height of the barometer was 30·111 inches, or 0·256 inch above the average value for February—namely, 29·855 inches. The mercury rose to 30·548 inches at 9 p.m. of the 16th, and fell to 29·576 inches at 9 p.m. of the 6th. The observed range of atmospheric pressure was, therefore, 0·972 inch—that is, a little less than an inch.

The mean temperature deduced from daily readings of the dry bulb

thermometer at 9 a.m. and 9 p.m. was $33\cdot6^{\circ}$, or $10\cdot1^{\circ}$ below the value for February, 1894, and $1\cdot0^{\circ}$ below that for January, 1895. Using the formula, *Mean Temp.* = *Min.* + (*max.*—*min.* \times $\cdot 50$), the M. T. is $34\cdot2^{\circ}$, compared with a twenty-five years' average of $42\cdot8^{\circ}$. On the 28th the thermometer in the screen rose to $48\cdot6^{\circ}$ —wind, W.S.W.; on the 7th the temperature fell to $19\cdot0^{\circ}$ —wind, calm. The minimum on the grass (snow) was $10\cdot4^{\circ}$ also on the 7th.

The rainfall was only $\cdot 625$ inch, distributed over 9 days. The average rainfall for February in the twenty-five years, 1865–89, inclusive, was $2\cdot150$ inches, and the average number of rainy days was 17·2. The rainfall, therefore, and also the rainy days, were much below the average. In 1883 the rainfall in February was large— $3\cdot752$ inches on 17 days; in 1879, also, $3\cdot706$ inches fell on 23 days. On the other hand, in 1878, only $\cdot 925$ inch was measured on but 8 days; in 1890, only $\cdot 802$ inch fell on but 7 days; and in 1887 only $\cdot 541$ inch fell on 11 days. The rainfall in 1891 was much the smallest recorded in February for very many years. The record is probably unparalleled— $\cdot 042$ inch on 2 days. The nearest approach to this drought was in September, 1865, when only $\cdot 056$ inch of rain was measured on but 3 days. In 1892, the rainfall was $2\cdot119$ inches, on 19 days; in 1893, $2\cdot669$ inches fell on 22 days, and in 1894, $1\cdot903$ inches on 16 days.

Snow or sleet fell on 7 days—the 1st, 2nd, 5th, 6th, 7th, 9th, and 10th, while hail was observed on 6 days—the 1st, 2nd, 5th, 6th, 7th, and 25th.

The atmosphere was foggy on 6 days—namely, the 7th, 11th, 12th, 19th, 21st and 22nd. The amount of cloud— $55\cdot0$ per cent.—was considerably in defect of the average—66 per cent. High winds were noted on 15 days, reaching the force of a gale on 7 occasions—namely, the 1st, 3rd, 4th, 9th, 10th, 14th and 15th.

The temperature reached or exceeded 40° in the screen on 8 days, but it never reached 50° , and only twice exceeded 45° . On the other hand, it fell to or below 32° in the screen on as many as 18 nights, compared with only 2 nights in 1894, 5 nights in both 1893 and 1892, and 2 nights in 1891. The minima on the grass were 32° , or less, on every night, compared with 10 nights in 1894, 13 nights in 1893, 16 nights in 1892, and 17 nights in 1891. The thermometer failed to rise to or above 40° in the screen during the daytime on 20 days.

On Friday, the 1st, the frost relaxed in Norway, Scotland, the North of England and Ireland, while it “stiffened” in Germany, France, and the South of England. Snow, or sleet, and hail fell abundantly on this and the following day in nearly all districts.

The cold weather, which had set in on December 27, 1894, and had continued with varying intensity ever since, reached a climax in the week ending Saturday, the 9th, and frost of almost unparalleled severity was felt in nearly all parts of the British Islands in the latter part of the period.

To this result the distribution of atmospheric pressure over Western Europe and the presence of large quantities of snow upon the ground alike contributed. An anticyclone, near the centre of which the barometer rose to 31 inches on Wednesday, lay over Scandinavia and the extreme North of Russia throughout. On the other hand, atmospheric pressure was unusually low over the Peninsula and the Atlantic between Portugal and the Azores. At 8 a.m. of Sunday the barometer read only 28·93 inches at Ponta Delgada in the Azores. Consequently, strong easterly or south-easterly winds prevailed all along the western seaboard of Europe. On Wednesday an irregular low-pressure area was formed over Scotland and Ireland, where it caused severe snowstorms followed by intense frost—at night the screened thermometer fell to 0° (zero) at Edgeworthstown, Co. Longford, to—2° at Brookeborough, Co. Fermanagh, and to —4° at Tullamore, King's Co. At 8 a.m. of Friday the reading at Loughborough, Leicestershire, was —4°. In London, it was + 12° at the same time. On Saturday the cold became less severe, but no sign of a permanent thaw appeared, and the week closed with most of the great rivers of the British Islands frozen across, or blocked with ice-floes. In Dublin the mean height of the barometer was 29·950 inches, pressure ranging between 30·187 inches at 9 p.m. of Monday (wind E.), and 29·576 inches at 9 p.m. of Wednesday (wind, N.N.E.). The mean temperature was only 31·6°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 31·2°. On Monday the screened thermometers rose to 38·9°. On Thursday they fell to 19·0°, the minimum on the snow being 10·4°. Rainfall amounted to ·330 inch on two days—it was exclusively in the form of snow and hail, ·310 inch being measured on Wednesday. The prevalent winds were E. and S.E.

During the week ended Saturday, the 16th, very severe weather was again felt in Scandinavia, Germany, France, and the British Isles. In the Peninsula, and at times in Italy also, more genial conditions prevailed. On Sunday and again on Thursday an Atlantic depression was found off the S.W. of Ireland; but in neither instance did the disturbance make any headway in forcing a passage northeastwards. The first system travelled southeastwards to France and disappeared. The second behaved in a very similar way. The former system caused a heavy snowstorm on Sunday in the south of Ireland, leading to a delay of 26 hours in the despatch of the American mails from Queenstown, the mail train having been blocked for that space of time by enormous snowdrifts on the Great Southern and Western Railway between Limerick Junction and Mallow. In Dublin the sky was overcast throughout Sunday, lofty cirro-stratus coming in an upper current from S.W., while the wind was strong from S.E. Only a few flakes of snow, however, fell in or near the city; but at Roche's Point, Co. Cork, melted snow and rain yielded 1·10 inches of water in the rain-gauge for the two days. The second depression produced a

partial thaw on Wednesday and Thursday—the thermometer rising to 46° at Valentia Island—but on Thursday afternoon frost returned. The wind rose to a fresh gale from E. on Friday evening. Saturday was cloudless, with bright sunshine and a gradual thaw in the daytime, but frost at night. In Dublin the mean height of the barometer was 30·078 inches, the range of pressure being from 29·625 inches at 9 p.m. of Sunday (wind, S.E.), to 30·548 inches at 9 p.m. of Saturday (wind, E.S.E.). The mean temperature was $32\cdot4^{\circ}$. The mean dry bulb temperature at 9 a.m. and 9 p.m. was $31\cdot9^{\circ}$. On Wednesday and also on Saturday the screened thermometers rose to $39\cdot6^{\circ}$. On Tuesday they fell to $21\cdot1^{\circ}$. The minimum on the snow on Tuesday was $17\cdot0^{\circ}$. The prevailing winds were S.E. and E. There was no measurable rainfall.

The week ended Saturday, the 23rd, while still very cold, witnessed a gradual but decided advance of temperature and a general mitigation in the rigours of an exceptionally severe and protracted “cold snap.” So far as the British Islands were concerned, an anticyclonic distribution of atmospheric pressure held almost to the close—on Saturday, however, a depression was evidently encroaching upon our Northern and North-western coasts. At 8 a.m. of Sunday, the isobar of 30·6 inches embraced the east of Scotland and temperature was as low as 7° at Nairn. Keen easterly winds prevailed in Ireland. Next morning the thermometer read only 5° at Nairn, where it had been down to 2° in the night. The anticyclone now moved in a S.W. direction to Ireland, over which country it remained lying until Saturday. This change of position in the area of high pressure caused the keen, dry easterly winds to die out, their place being taken by moist N.W. winds, which brought with them more or less clouded skies, a higher temperature, haze and some damp fog. Very little precipitation, however, took place in any part of the British Isles. In Norway and Portugal, on the contrary, rain fell pretty freely, the measurement at Lisbon being particularly large—2·41 inches on the last five days of the week. In Dublin the mean height of the barometer was 30·410 inches, pressure ranging from 30·510 inches at 9 a.m. of Sunday (wind, E.S.E.), to 30·268 inches at 9 p.m. of Saturday (wind, W. by N.). The mean temperature was $35\cdot1^{\circ}$. The mean dry bulb temperature at 9 a.m. and 9 p.m. was $34\cdot0^{\circ}$. On Saturday the thermometers in the screen rose to $42\cdot9^{\circ}$. On Thursday they fell to $25\cdot8^{\circ}$. On Thursday for the first time in February temperature rose above $40\cdot0^{\circ}$. Rain fell on that day, but only to the amount of ·010 inch. On Sunday morning, the 24th, an additional rainfall of ·011 inch occurred, the total measurement for the week thus becoming ·021 inch on two days. The prevalent winds were at first E.S.E., afterwards W.N.W.

During the closing period (24th—28th, inclusive) there was again an advance in temperature, although not of a pronounced or permanent kind. Both in the North of Europe and in the extreme South, the

distribution of atmospheric pressure was cyclonic. Between these areas and especially over Ireland the barometer stood relatively high and at times the isobars were of the anticyclonic type. This was the case from Monday until Thursday, when sharp night frosts occurred in Central England and also in Central Ireland—at Parsonstown the screened thermometer fell to 22° on Monday night. The day maxima were, however, higher than for many weeks past. On Thursday, for example, the thermometer rose to 50° at Valentia Island, 49° at Leith, Donaghadee, Parsonstown, and in Dublin (48.6°); 48° at Aberdeen, Loughborough, Roche's Point, and Scilly; and 47° in many other places. On Thursday the screened thermometers rose to 48.6° , on Tuesday they fell to 28.9° . The prevailing wind was N.W. Rain fell on three days to the total amount of .093 inch, .069 inch being measured on Thursday.

In Dublin the rainfall up to February 28, 1895, amounted to 6.336 inches on 33 days, compared with 4.741 inches on 39 days in 1894, 4.908 inches on 41 days in 1893, 8.817 inches on 39 days in 1892, .714 inch on 16 days in 1891, and a twenty-five years' (1865–1889) average of 4.350 inches on 34.5 days.

At Knockdolian, Greystones, Co. Wicklow, .765 inch of rain fell in February on 5 days. The heaviest fall in 24 hours was .365 inch on the 1st. The total fall to February 28th inclusive was 6.955 inches on 24 days.

The rainfall in February at Cloneevin, Killiney, Co. Dublin, amounted to only .46 inch on 7 days. The average rainfall for February during 10 years (1885–94) at this station was 1.614 inches, on 13.4 days. The greatest rainfall in 24 hours was .19 inch on the 6th. Absolute drought prevailed from the 7th to the 20th, both inclusive. Since January 1, the rainfall was 6.39 inches, on 31 days.

STATISTICS OF MEDICAL STUDENTS.

FROM a paper prepared by Dr. F. W. Reilly for the *Journal of the American Medical Association* we take the following figures:—United Kingdom (Great Britain and Ireland), 8,696 total registered medical students between 1889 and 1893; for the year 1893, based on yearly accretions, 7,000; population, 37,000,000. France, total number medical students inscribed on the books of the Paris Faculty of Medicine for 1894, 5,144; population, 40,000,000. Germany, total number medical students registered for 1894, 8,684; population, 50,000,000. United States and Canada, total number medical students in attendance sessions of 1894, 20,800; population, 70,000,000. Proportions: In the United Kingdom, 1 medical student to 5,286 of population; in France, 1 to 7,776 of population; in Germany, 1 to 5,757 of population; in the United States and Canada, 1 to 3,365 of population.

PERISCOPE.

ARMY AND INDIAN MEDICAL SERVICES.

THE following papers were set at the Examination of Candidates for her Majesty's Army and Indian Medical Services, held during February, 1895:—

Anatomy and Physiology.—Mr. Makins. Friday, 15th February, 1895, from 10 a.m. till 1 p.m. [N.B.—The replies to be written with the ink provided, and not with a pencil or pale ink.] 1. Describe the course and relations of the posterior tibial artery and its branches. 2. Describe the prostate gland, and give its relations to the pelvic fascia and contiguous structures and viscera. 3. Give an account of the most generally accepted views as to colour vision, and the physiological defect known as colour blindness. 4. Enumerate the muscles which produce changes of form and position of the tongue in deglutition and articulation, assigning to each its special functions. How is the tongue supplied with nerves, and what evidence exists as to the origin of the gustatory fibres?

Surgery.—Sir William MacCormac. Friday, 15th February, 1895, from 2 p.m. till 5 p.m. All four questions to be answered. 1. Give the causes of laceration of the middle meningeal artery, and the symptoms, diagnosis, and treatment of a case of this injury. 2. Discuss the clinical features of villous carcinoma (duct cancer) of the breast. Describe its mode of origin, and the appearances on section, and give the treatment and prognosis. 3. What are the symptoms, diagnosis, and treatment of syphilitic, tuberculous, and sarcomatous testicle? 4. Describe the various forms of ulceration met with in the rectum, with their causes, pathology, and treatment.

Medicine.—Dr. Allchin. Saturday, 16th February, 1895, from 10 a.m. till 1 p.m. 1. State the diagnosis you would have formed of this case (a) on admission to hospital, setting forth the grounds of your opinion; and (b) the opinion you would have formed after the patient had been five weeks under treatment. Describe the probable *post-mortem* appearances and such treatment, medicinal and operative, as you would have recommended:—Geo. C., aged sixty-five, a bricklayer, was admitted into the hospital early in August, 1894, suffering from jaundice. He remained under observation until his death, which took place at the latter end of September. Very little of importance was ascertained in respect to his family history. He stated that he had always been healthy, and never laid up until the present illness. No history of syphilis. Has been in regular work, and has lived well; always temperate, drinking about a pint of beer daily. Appetite good and bowels regular. Is married, and has had seven children, five of whom are living. The present illness

began in April last, 25 hours after exposure to very foul sewer emanations, to which he was exposed in repairing a drain. He was seized with vomiting, some diarrhoea, pain in the abdomen and loss of appetite. He kept to the house for a month, feeling weak and unable to work; but no further particulars of the attack were obtained. He subsequently returned to work for five weeks, though not feeling well, and was then obliged to give up owing to weakness and loss of flesh. He never recovered his health, and up to admission into the hospital suffered more or less continually from abdominal pain of varying severity. For two months before admission the bowels were loose, the motions being light-coloured. The loss of weight was progressive and considerable, and the appetite was indifferent. There had been some jaundice for three weeks previous to coming into the hospital. On admission the patient was emaciated and moderately jaundiced, but not markedly cachectic looking. He complained of some pain in the abdomen, chiefly at the epigastrium, but it was not severe, and there was no tenderness. No enlargement of liver or spleen, and no tumour to be felt in the abdomen. Stomach not dilated. Chest normal. Urine very dark-coloured, from bile. Motions very pale, but not absolutely wanting in colour. No ascites nor cedema of extremities. Temperature in the mouth, 98° Fahr. Pulse, 65, regular, full; vessels rather hard and tortuous. Weight, 8 st. 13 lbs. During the month following admission patient varied but slightly from day to day, and there was no decided improvement. The jaundice at times was less marked, but it never disappeared. The urine was always of a very dark-greenish tint, and the motions, which were loose and usually three or four times a day, were pale though sometimes very faintly coloured. The emaciation continued, and his loss of weight was nearly four pounds in the month. Appetite very poor, and the amount of food taken was very small. The temperature ranged daily between 96° and 97° Fahr. The pain in the upper part of the abdomen, between the umbilicus and ensiform cartilage, was at times very severe; but there were intervals of many hours in which the pain was scarcely felt. He generally left his bed for a few hours each day. Early in September, for the first time, the liver was found to be slightly enlarged, the lower margin being perceptible about a finger's breadth below the costal margin. At the same time a fairly tense, easily-movable tumour, of about the size of a Tangerine orange, could be felt in the right hypochondrium in nipple line. The jaundice became deeper, and never again subsided. Stool and urine as before. No ascites nor cedema of feet. The pain was rather more severe and more constant, but only a vague tenderness on pressure over the seat of pain, which was somewhat relieved by anodyne fomentations. No vomiting. On September 9th, the temperature rose from 96·5° Fahr. to 101° Fahr., and there was a slight rigor; but it slowly fell to 97° Fahr. again within 48 hours; on the 12th, another rise to

101.4° Fahr. took place, and subsequently fell to sub-normal, at which it remained. The patient was daily becoming much worse, taking very little nourishment and continuing to lose weight. The possibility of benefit from operation was submitted to him and his friends, and with their approval the abdomen was opened on September 21st, and the proposed operation successfully performed. The patient rallied well from the operation, and at the end of 24 hours was comfortable and very cheerful. Uncontrollable vomiting soon after set in, and he died 50 hours after the operation. It may be added that, from the time that the enlargement of the liver was first noticed, only a very slight increase in the size of the organ was noticed, and the tumour in the right hypochondrium scarcely altered from the day it was first detected. No albumen was found in the urine. 2. Discuss the pathology of diabetes mellitus. 3. Describe a child the subject of well-marked rickets. To what complications is the patient liable, and how would you treat a case? 4. Describe the condition known as *migraine*, its symptoms, causation, pathology, and treatment.

Chemistry and Materia Medica.—Dr. Shore. Saturday, 16th February, 1895, from 2 p.m. till 5 p.m. 1. Give an account of phosphorus—(a) the condition in which it occurs in nature, (b) its allotropic forms, (c) its properties, (d) how it may be prepared from bones. 2. Describe the relations which the hydrocarbons of the paraffin series, the monatomic alcohols, the fatty acids, the aldehydes, and the ethers, bear to each other. Explain the constitution of each of these classes of organic compounds. 3. Give an account (a) of the *general* medicinal properties of the alkalis, (b) the *special* actions and uses of the compounds of sodium, ammonium, potassium, and lithium respectively. 4. Mention the most important therapeutic agents which act upon the blood pressure, stating clearly what are their actions, and describing how the result is brought about in each case. 5. Mention the preparations of Jaborandi, and describe its physiological actions and therapeutic uses.

Natural Sciences.—Dr. Shore. Thursday, 21st February, 1895, from 10 a.m. till 1 p.m. [Candidates should answer not more than *six* questions, and they are recommended to confine themselves to *two* branches of science only.] Zoology and Comparative Anatomy:—1. Describe and compare the structure and life histories of *Amœba*, *Vorticella* (bell animalcule), and *Hydra*. 2. Describe the general structure and life history of a sea-urchin. 3. How is the vertebral column developed? Compare the vertebræ of a dogfish with those of a frog, a bird, and a mammal. Botany:—1. Describe the structure and mode of reproduction of the yeast plant. Compare its mode of life with that of a unicellular Alga. 2. What is heliotropism? Give some explanation of this phenomenon. 3. Describe (a) the structure of the epidermis of the lower side of a leaf, (b) the origin of the epidermis, (c) the development of a stoma, (d) the

functions of the stomata. Physics :—1. Describe, by the aid of diagrams, the formation of an image (*a*) by a concave mirror, (*b*) by a convex mirror, (*c*) by a double concave lens. What is the difference between a “real” and a “virtual” image? 2. What are “currents of convection”? How are they produced? Give examples of such currents occurring on a large scale in nature. 3. What is a galvanometer? Describe carefully any one form of galvanometer, and how to use it, explaining the principle of its construction. Physical Geography :—1. Into what regions, for purposes of describing the distribution of animal and vegetable life, is the earth’s surface divided? Mention the *characteristic* flora and fauna of each region. 2. What different sorts of rocks compose the earth’s crust? State what you know of their origin. 3. Is the mean temperature the same at different places of the same latitude? If not, explain the reason for the difference, stating the circumstances which regulate the mean temperature of a place.

BACTERIOLOGICAL EXAMINATION OF WATER.

THE *Indian Medical Gazette* (Dec., 1893) publishes part of a report by Mr. Hankin, Chemical Examiner N.W.P., &c., on microbes in soda water, giving the results of his examination, by the bacteriological method, of the aerated—which he mis-spells “ærated”—water used in the Agra cantonments. He ascertains, not by counting but by “plate culture” (which he describes), the number of microbes in a cubic centimetre of the sample. We subjoin his table showing the results obtained by other investigators by the bacteriological method. We may add a practical conclusion at which he arrives—“that any risk of infection from bad soda water can be avoided, if it is kept for a week or more before use” :—

Nature of sample examined	By whom observed	Microbes per cubic centimetre
Aerated water made from artesian well water in London - - -	Slater	480
Ditto	”	433
Ditto	”	2,919
Bottled aerated water, London - -	”	649
Unfiltered water from river Elbe near Altona (Hamburg) - - -	Koch	34,720
The same filtered from Altona water- pipes - - -	”	{ 50 42 68
The same ditto on different dates -	”	{ 34 48
The same during a partial break-down of the filter, and which was followed by a typhoid epidemic - - -	Rencke	1,150

Koch gives 100 microbes per cubic centimetre as the limit of safety for drinking water.

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PART I. ORIGINAL COMMUNICATIONS.

ART. XV.—*Three Cases of Friedreich's Disease (Hereditary Ataxy) Associated with Genetous Idiocy.** By M. J. NOLAN, L.R.C.P.I., L.R.C.S.I.; Medical Superintendent, Down District Asylum, Downpatrick.

I HAVE the honour to introduce to the notice of the Academy three cases of Friedreich's disease (hereditary ataxy) associated with genetous idiocy of the cretinoid type, which have been under my observation. They are, I believe, the first of the kind that have been brought before the medical societies in this country. Apart from that consideration, however, and from the fact that they admirably illustrate the symptoms of a disease of which but some one hundred genuine cases are on record, they are of special interest in their co-existence with such aggravated mental deficiency—in this latter respect they would, as far as our present knowledge of the disorder goes, appear to be unique.

To avoid the possibility of confusion it may be desirable to state, at the outset, that the cases under notice are regarded as examples of that special form of ataxy originally described by Friedreich in 1861, and which for twenty years later was variously described as "hereditary," "familial," and "generic" ataxy.

Each new title proved unsatisfactory, and at length, in 1882,

* Read before the Medical Section in the Royal Academy of Medicine in Ireland, on Friday, March 22, 1895.

Brousse (1) gave it the name of its original observer, and from that date it has been almost universally identified as "Friedreich's Disease." But, as will be seen, the cases now noted, though without doubt belonging to Friedreich's special ataxy, at the same time possess points of resemblance with Sanger-Brown's (2) late hereditary ataxy, Pierre Marie's (3) cerebellar heredo-ataxy, and Déjerine and Scottar's (4) heredo-ataxy of peripheral origin. From all such sub-types they are definitely removed by symptoms so pronounced that there is no need to discuss the differential diagnosis; nor can they be mistaken for chorea, tabes, disseminated sclerosis, or family cerebral diplegia, all of which may be confounded with some of the less typical cases of Friedreich's disease.

Family History.—The father (aged forty-nine) of the three patients has been a chronic drunkard from youth. With the exception of gastric and hepatic ailments, the result of alcoholic excess, he has enjoyed good health, has no history of syphilis or of any of the neuroses. His father died of senile phthisis; his mother, at a ripe age, of gangrene.

The patients' mother is a hardy woman, who never had a serious illness. With the exception of her eighth and last confinement (when Thomas, one of the subjects of this communication, was delivered by instruments), she has had normal, easy labours. Her father died in middle age of "lung disease" (phthisis?), her mother in advanced life of "disease of the back of her brain." Apart from this vague history of cerebellar (?) disease, there is no record of any cerebro-spinal paralysis; nor can any history be discovered of chorea, epilepsy, or insanity. Her knee-jerks are normal.

The parents had a family of eight children, viz :—

1. Sarah, aged twenty-seven. Perfect health. Very intelligent.
2. David, aged twenty-three. Excellent health. Intelligent.
3. Elizabeth, aged twenty-two. Ataxic. Idiotic.
4. Thomas (I), aged eleven. Died of scarlatina. Previously healthy.
5. Robert, aged fifteen. Ataxic. Idiotic.
6. Ellen, aged five. Died of scarlatina. Previously healthy.
7. Susan, aged twelve. Healthy. Intelligent.
8. Thomas (II), aged ten. Ataxic. Idiotic.

All were reared at the breast for an average period of one year and nine months. The mother attributes the condition of her three ataxic children "to her husband's constant drinking fits and

frights in consequence," and, like the widow Suss, mother of some of Friedreich's patients, she believed they were "conceived during drunkenness," but she has to confess that the same conditions were in operation during all her pregnancies. No child suffered from eclampsia during childhood, nor in the case of the patients was the ataxy heralded by monoplegia, hemiplegia, or other prodromal symptoms of an acute nervous character. In each case she observed the disease soon after birth, and noted with increasing age the progressive inco-ordination attacking successively the legs, arms, and heads, and lastly the eyes, and the speech mechanism. Noting again the taint of alcoholism, brain disease, and tubercle in their family history, I pass on to review briefly the symptoms of the individual patients.

CASE I.—Elizabeth M'L., aged twenty-two, the senior patient, and third born of the family, was admitted to the Down Asylum on the 13th of December, 1894, charged as a "dangerous idiot." The warrant stated that "she did wound and violently assault her brother Thomas, by tearing him and attempting to throw him into the fire." The girl is 4 feet 7 inches in height, and weighs about 7 stones.

Figure.—Stunted, inclined to left side, owing to spinal curvature.

Expression.—When in repose the features are rather of the Malayan idiotic class; in animation expressive of good humour.

Eyes.—Lids heavy, and slow in action. Vision seems normal. Low degree of intelligence renders it impossible to test accurately the colour sense or the limitation of the visual field. Slight internal convergent strabismus without diplopia. Pupillary reflexes normal. Inability to sustain prolonged co-ordinated movement of eyeball. Slight horizontal "static nystagmus" (Friedreich's) always present. Well-marked "ataxic nystagmus" (Friedreich's) elicited on steady fixation, and characterised by oscillation rising and declining in frequency in a Cheyne-Stokes fashion.

Hearing, taste, and smell normal.

Speech.—Prolonged fibrillary contractions of the facial muscles precede articulation. Marked lack of control over lingual and lip muscles. Words ejected in a laboured, jerky style; many are mutilated, and pronunciation is very imperfect. Example:—

"Hook ob ages, lebt fuh me,
Let meh hi my sin in theh."

Thyroid gland.—Uniformly enlarged in a moderate degree. No tendency to exophthalmos or cardiac overaction.

Sensation.—Tactile sensibility intact. There is, however, a universal partial analgesia of varying intensity, most marked over the limbs, less

so over the trunk. No complaint of any subjective sensations, lightning pains, or visceral crises.

Spine.—Marked tenderness over the mid-dorsal vertebrae. Scoliosis in upper dorsal and the dorso-lumbar regions. The convexity to the right above and left below, and combined with lumbar lordosis.

Sexual development.—Very retarded. Breasts rudimentary; absence of pubic hair; immature conformation of external genitalia. Menstruation not established. Complete want of self-consciousness.

Arms.—Subject to "ataxy of quiet action" (*Friedreich*) or inability to keep still. Want of co-ordination when special action is attempted.

Hands.—Considerable difficulty experienced in the performance of premeditated acts, such as threading a needle, picking up a pin, hooking or unhooking her dress; intermittent athetoid movements when lying in lap; hovering "bird-of-prey" action when seizing an object. Exertion rapidly tires. Wasting of thenar and interosseal muscles, with tendency to cupping of the palm and flexion of the fingers, giving the suggestion of the *main en griffe*.

The Feet.—Fairly formed; rather "stumpy," with tendency to antero-posterior shortening, but no retraction of great toe. Slight degree of drop-ankle, owing to paresis of leg muscles.

Gait.—Much difficulty in assuming the erect position, which cannot be maintained unaided. In progression, which is slow, the legs are kept wide apart, heavy unequal steps are taken, the feet hover to the ground, the inner aspect of sole first striking it from heel to great toe, and then flapping outwards. They are raised but little from the floor, and seem as if restrained by some adhesive substance from withdrawing rapidly. The course described is rather zig-zag in outline. Every visible muscle of the body is brought into play to preserve the equilibrium; the head and body bent forward, and the hands extended laterally, ready to break the ever imminent fall. Turning is almost impossible without aid; and closure of the eyes (*Romberg's symptom*) increases all difficulties tenfold by aggravating the "static ataxy."

Knee-jerk totally abolished.

Trophic lesions confined to vaso-motor disturbances—lividity and coldness of feet.

Negative symptoms.—Integrity of the sphincters; absence of visceral crises; the integrity of special sense organs; and cutaneous sensation. Electrical reactions normal.

CASE II.—Robert M'L., aged fifteen years (the fifth born child), was admitted to the asylum on same day as his sister (13th December, 1894). He was also committed as a "dangerous idiot," the warrant stating that he "did attempt and endeavour to violently assault his mother with a butcher's hammer." He is 5 feet 2½ inches high.

Figure is fairly proportioned, and, when supported, shows no tendency to scoliosis, though the whole body depends forward on the pelvis.

Expression also Malayan in type, but of a brighter cast than that of his sister. Very easily excited to smiles and laughter.

Eyes.—Lids act in normal accompaniment to movement of the eyeballs. Vision normal; visual field and colour sense cannot be accurately gauged owing to mental condition. Slight internal convergent strabismus, without diplopia. Reaction of pupils to light, and sympathetic reflexes normal. Accommodation normal. Co-ordinated movement fails to be sustained after a brief period. "Static nystagmus" always present in a slight degree, and is readily converted into "ataxic nystagmus" by fixation of attention on any object; the oscillations in the horizontal line less defined in rhythm than in the same condition in his sister.

Hearing, taste, and smell normal.

Speech is ushered in by rapid fibrillary contractions of the oral, lingual, and facial muscles. Articulation is spasmodic and "scanned," phonation discordant, and language imperfect. Examples:—

- (a) "Wass me in bud o' deh Lamb,
I tal be witer dan tow."
- (b) "Fall we gayeh at deb riber,
Wer wit ayndels' feet have teed."

The palate is too highly arched; and the soft palate, uvula, and fauces are flabby.

Thyroid gland.—Bilaterally very much increased. No exophthalmos, but throbbing of great vessels at roof of neck and hæmic bruit over the tumour. Rapid flushing and paling of face. Paroxysmal sweating of head and feet.

Sensation.—No anæsthesia or subjective phenomena. Partial analgesia of varying degree is distributed almost over the entire body, but is much more marked in the extremities than on the trunk, and less on the anterior than the posterior aspect.

Spine.—No tenderness over spinous processes. No tendency to scoliosis or lordosis.

Sexual development.—Physically rather in excess of his age; but no evidence of sexual power, excitation, or desire has been observed, though the penis and testicles are abnormally large. Neither has he exhibited any self-consciousness during repeated examinations.

Arms.—The "ataxy of quiet action" is very evident, and the want of co-ordination during voluntary movement is more aggravated than in the other case. He is unable, when his arm is extended, to bring his forefinger accurately to the tip of his nose; he "dabs" it on the bridge or at the inner canthus of the eye. Carries a glass of water with difficulty to his mouth, but at length succeeds; the jerky movements not affecting the direct line of action of the limb as in chorea.

Hands.—In this case also are subject to atrophy of groups of the intrinsic muscles, and exhibit the athetoid movements of the fingers when lying unused, and the "claw-like" configuration when about to pick up an object. Efforts to button or unbutton his clothes or perform other more delicate acts are fumbling and uncertain, and quickly induce fatigue.

Feet.—Free from deformity (no tendency to club-foot), but show marked ankle-drop.

Gait.—The ataxy is so great that no voluntary effort is made to leave his seat. When required to move it is necessary to assist him into the erect position, which he cannot maintain without support. Progression is most difficult. The legs are wide apart—the feet hover to the floor from which they are raised laboriously. The limbs are carried from side to side by the overhanging trunk, the extended hands grasp for aid, the spine is arched forward, and the head is thrown back. Rapid rotary movement is impossible—slow turning is most difficult. Closure of the eyes so much increases all difficulties that patient would speedily fall if unsupported.

Knee-jerk present and exaggerated. Slight ankle clonus. Trophic lesions, confined to vaso-motor disturbances—the blushing and paling of face, and the intermittent hyperidrosis of face, head, and feet.

Negative symptoms.—In addition to the integrity of the sphincters, and absence of fulminating and girdle pains, we note freedom from ocular and visceral troubles. Electric reactions normal.

CASE III.—Thomas M'L., aged ten, eighth and youngest child. Was not a patient in the asylum, but was brought to me for examination.

Figure.—Rather small, but duly proportioned.

Expression.—Identical with that of his brother, whom he most strikingly resembles in every particular.

Eyes.—Vision normal. Strabismus, internal and convergent. "Static" and "ataxic nystagmus" in the horizontal axis, with undulating rhythm. Some inability to sustain associated movements.

Hearing, taste, and smell normal.

Speech.—Is more rudimentary than in two previous cases; vocabulary is more restricted, and the ataxy is not confined to the lingual, oral, and facial muscles, but even more markedly affects the intrinsic muscles of the larynx and vocal chords, efforts at phonation resulting in a shrill sibilant tenor or gurgling bass note. The hard palate is overarched, and the muscles of the soft palate are flabby and ataxic.

The thyroid gland seems to be of normal size.

Sensation.—Tactile sensibility and the sense of pain are normal.

Spinal column.—No tenderness on pressure, muscles flabby and weak, curvature but a matter of time.

Sexual development.—Physically nothing abnormal.

Arms.—Action very ataxic. The tests applied (accomplished with effort in the case of his brother and sister), he is unable to attempt with any degree of success.

Hands.—Very restless. Wasting more advanced, and attitude more suggestive of the *main en griffe*.

Feet.—No special deformity.

Gait.—Ataxy very advanced—cannot advance more than a step or two unaided executed in the manner described. Cannot turn. Closure of the eyes causes him to fall forward over his legs, which are stretched wide as possible apart, in the attempt to gain a basis of support.

Knee-jerk absent. No ankle clonus.

Trophic lesions.—None manifest.

Negative symptoms.—Freedom from ocular and sensory troubles. Integrity of sphincters, absence of lightning pains or visceral crises.

Observations.—I much regret I am unable, for obvious reasons, to bring the subjects before this meeting, as a brief personal observation would enable those present to satisfy themselves as to the striking and characteristic nature of the symptoms which I have endeavoured to faithfully depict, but of which any verbal description must necessarily be bald and imperfect. I am able, however, to put before you some photographs of the patients, which show some of the salient features very clearly. In those of the girl one observes the inability to remain erect unsupported, the lateral curvature and lordosis, the stunted contour of the figure, the expression of good-humoured idiocy, the absence of the external evidences of sexual development, the tendency to drop-ankle, and the goitre.

In those of the boys the same helplessness, the facial expression, the abnormally large size of the genitalia, and the tendency to drop-ankle are well portrayed; and in one of the pictures the blurred and distorted outline of the head and limbs indicates the “jerky movements” and “ataxy of quiet action,” the presence of which rendered the reproduction of the other conditions no easy task. Add to the characters thus shown the “static ataxy,” the “static” and “ataxic nystagmus,” the peculiar laboured “scanned” speech, the steady progressive paresis gradually invading all the members from below upwards, the wasting and paresis of the hand muscles, and one finds the complete syndrome which embraces the aggregate elements that go to produce the special type of ataxy first isolated and described by Friedreich. The symptoms are common to all three cases now recorded, and bear out M. Soca’s (5) law that

the disease commences at the same age in members of the same family; but it is worthy of note that though in all three the disease started with infancy, yet at this time the bodily and mental infirmities are in inverse ratio to the ages of the sufferers—the youngest is most, the oldest is least advanced, the intermediate patient being affected in a medium degree.

I have preferred to describe these cases under the title of "Friedreich's Disease" rather than under its synonyms "Hereditary Ataxy," "Family Ataxy," or "Generic Ataxy," since observation has determined that the type which Friedreich established as a distinct pathological entity is not necessarily, indeed rarely is, "hereditary," nor, as some nine recorded isolated cases prove, is it confined to a "family" or "generic" character. However objectionable it may be to designate a disease by the name of its discoverer, such a course is less liable to cause error than to give to the disorder as a title the name of one or more non-essential symptoms. The inevitable result of the latter system is the setting up of sub-groups to receive the cases which do not fit in with the nomenclature of the original type, though they really differ from it not in kind, but in degree. The existence in one or other of the three cases under notice of special symptoms which have been laid down by different observers as restricted to the individual groups of cases investigated by them, demonstrates the futility of dogmatically limiting clinical phenomena which depend for their production on varying degrees of developmental errors in the cerebro-spinal system, and which in no way follow the beaten track of disease set up in a once perfectly constituted nervous organisation. Thus, though the three cases so fully embrace the symptomatology of Friedreich's disease, one or other has, as I stated at the opening of my communication, some points of contact with the following important groups, viz:—

1. With Sanger-Brown's and Nonne's "Late Hereditary Ataxy" (of cerebellar origin) in the retention and exaggeration of the knee-jerk and the presence of ankle clonus in the case of Robert, and absence of club-foot in all three cases.

2. With Pierre Marie's "Cerebellar Heredo-Ataxy" in the same particulars.

3. With Déjerine and Scottar's "Heredo-Ataxy" (of peripheral origin) in the mixed character of the symptoms of tabes and Friedreich's disease proper, in the case of Elizabeth.

4. With Klippel and Durante's group in the sensory disturbance (partial analgesia) in each case.

5. With Family Cerebral Diplegia (3) in the marked spasmodic character of the gait and speech in the case of the youngest patient (Thomas).

The clinical affinity thus indicated, of interest in itself, would not seem to be of paramount importance, were the points of contact named not regarded of the highest weight (by the various eminent observers) as essential to the differential diagnosis between their classifications and "Friedreich's" disease. The presence, however, of these symptoms scattered irregularly through this group of cases must very considerably reduce their diagnostic value.

One point of clinical interest of a negative character, the absence of foot deformity, must not be overlooked. No one of the three patients exhibits the club foot, which is erroneously believed by many to be a very essential feature in Friedreich's disease. Though, no doubt, this condition is a usual accompaniment (and naturally so when we consider the frequency of paresis of the antero-lateral muscles of the leg, the contractures co-existent to the very advanced stages of the disease, and the very common association of spinal curvature) yet there exists such a variable ætiology of the deformity that its presence cannot be regarded as essential to the recognition of "Friedreich's Disease." More particularly is this true of the early stages. On the other hand, when present, it has appeared very early in some cases. I have noticed the presence of drop-foot which Ladame (5) verified in a case regarded by him as "typical;" and in the case of the girl a development of the foot deformity is but a matter of time.

Psychical Condition.—The mental state accompanying these three cases is identical, and deserves some attention. Observation and inquiry have failed alike to elicit the slightest confirmation of the alleged violent homicidal outbursts, which led to the committal of two of the patients to the asylum. The inference is that the convenient provisions of Act 30 & 31 Vic., c. 118, gave the parents a simple and ready means of relieving themselves of a burden and responsibility; and, no doubt, sooner or later, they will take the same steps in the remaining case. The mental aspect in point of fact conforms very little with that usually associated with idiots of the cretinoid type. Tractability, unvarying good humour, personal cleanliness, and psychical asexuality

are their leading features. Though so low in mental endowment, and constrained by physical infirmity to the tedium of a constant sitting posture, they never exhibit in the most remote degree the waywardness, fulminations, filthy habits, and marked sexual depravity so commonly combined with congenital mental deficiency. On the contrary, they are most anxious to please; they are childishly eager for notice, and delighted with any little mark of attention. Neither do they show a mimetic tendency; on one occasion only the girl repeated the curses of another patient, but in a highly amused manner. They seem devoid of disturbing emotions, and possess a continual feeling of well-being such as characterises certain phases of general paralysis of the insane. There is, however, absence of distinct exaltation, delusion, illusion, or hallucination. Intelligence is very low, volition is rarely manifest, and memory very defective. The morbid condition of the speech has been noted. They never attempt to speak of their own accord, and their replies to queries are difficult to understand, vocabulary being limited, phonation defective, and articulation imperfect. In the repetition of simple prayers or hymns they require frequent prompting and their delight in responding is so great that there is no trace of reverence for the religious sentiments. The natural affections seem to be in abeyance. The girl passively holds a large doll but without the affection of maternal nursing so characteristic of girlhood. The boy is casually observant of the doings of those about him, showing no trace of the normal adolescent desire to take part in all that is going on, nor can he be taught to master the simplest game. To sum up, we find a physical condition restricted to a fixity of location almost vegetable, combined with a hybrid-psychical condition comprising the negative aspect of idiocy, and the active exuberant sense of well-being of expansive delirium. Finally, this atypical idiotic mental state is co-existent with a very definite form of ataxy.

Genetous idiocy has been found combined with locomotor ataxy (6), infantile spinal paralysis (7), anterior poliomyelitis porencephalus (7), and pseudo-hypertrophic paralysis (6 and 7), but I can discover no instances, except the cases now noted, of genetous idiocy in the victims of Friedreich's disease. The psychical conditions noted by authors in the latter disease have been but lightly touched on, yet the observations made show the various degrees of intelligence to be found in association with it, and prove the truth of Gower's (8) remark that no mental change

can be regarded as part of the disease. There is certainly no unvarying arrest of intelligence corresponding to the arrest of development in the nerve structures; and Ladame (5) looks for anomalies of temperament—irritability, apathy, indolence, causticity—rather than for arrested mental development. M'Kenzie (9) states that in many cases there has been high development of brain power, one was a brilliant graduate of a university. Several have been noted for exhibiting a tendency to unprovoked outbursts of laughter. Pepper (10) says there is little tendency to involve the hemispheres—and that distinct aberration is very uncommon.

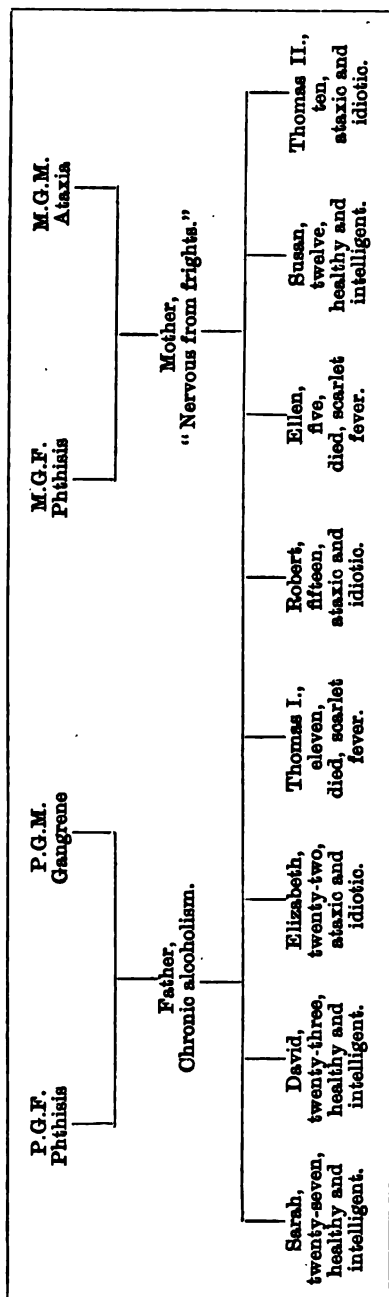
The cases now reported indicate that the psychical condition to be found with Friedreich's disease is not as restricted to anomalies of temperament as the foregoing observations would lead one to suppose. In them there is an entire absence of apathy, indolence, and violence, with a very low state of mental development, so low that there must be, of necessity, a pathological basis in the hemispheres.

Pathology.—A few words of a suggestive character on a point still debated. Having reviewed the opinions of various authorities, a recent writer observes—"What is needed is microscopic examination of spinal cords taken from members of strongly-affected families who have not themselves manifested the disease." One admires the scientific spirit of this observation, but feels that if the solution of the problem depends on such lines of inquiry it may remain very long unsolved. In the meantime we may accept the statement of Ladame (5)—who has crystallised, after careful analysis, all that is known on the matter—that the clinical symptomatology of Friedreich's disease is due to "a combined primary system—sclerosis of the spinal cord, in which several systems of fibres have been affected from birth or during infancy with an arrest of development (posterior columns, pyramidal, and direct cerebellar tracts), and degenerate before having attained their full growth." With this we have Gowers' (8) assertion that "the ultimate cause is a congenital tendency of development by which the affected elements have a briefer period of vital endurance than the other tissues of the organism." He holds, however, and in this he is in opposition to Möbius, Kahler, and Pick (10), that though there is a congenital tendency to an ephemeral existence in certain nerve structures, yet "their development suffices for perfect function during the early part of life and that their functional capacity undergoes subsequent failure which can only be due to a process of structural change." Now the three cases

under review go rather to support Möbius, since at no period of extra-uterine life did the development of the structures "suffice for perfect function." The morbid condition came into evidence with life itself. Again, as pointed out by Ormerod (11), Friedreich's disease is often brought to light after acute disease, particularly in early childhood, thus showing in those attacked a pre-existing receptivity of an organic nature in the nervous system. Hammond (12) and Senator (13) held that the defect was primarily in the cerebellum, involving the cord by extension; but recent researches have disproved this opinion. Very recently, in a case of exceptional interest, elaborately investigated by Dr. Michell Clarke (14), Friedreich's disease was complicated towards the end by a sarcomatous tumour of the cerebellum, but though the lesions in the cord were extensive, and characteristic, yet the cortex of the cerebellum was found healthy and in every respect normally constituted, with the exception of the presence of the new growth. Ausher has noted embryonic nerve tubes in the peripheral nerve tubes. The posterior nerve roots were found involved by Griffith. Déjerine and Lutelle (15) regard the defect as a neuroglial (ectodermal) sclerosis affecting the posterior columns chiefly. All investigations point to the developmental error as a gliosis of varying degree and uncertain distribution, sometimes clinically evident from birth, more frequently unveiled only by the ravages of intercurrent acute disease, or the stress of puberty or adolescence.

Going a step further, if we consider in this connection the morbid anatomical basis of idiocy, which in so many instances depends on a condition of cerebral sclerosis (an undue increase of the neuroglia, a slightly altered embryonal tissue), we may not be very hazardous in assuming that the possible explanation of the physical and mental conditions of the cases now before us is a gliomatosis of cerebro-spinal distribution.

Note.—Since the above was written Dr. Guthrie brought a case of "Early Friedreich's Disease" before the Medical Society of London (April 8th, 1895). The patient exhibited ataxia gait, slight inco-ordination of the hands, and complete absence of knee-jerks. Dr. Ormerod pointed out that in the absence of *speech affection, nystagmus, and family proclivity*, described by Friedreich as characteristic of the disease (and present in the three cases now recorded), Dr. Guthrie's case was rather doubtful as to its claim to be classed as "Friedreich's Disease."—M. J. N.

GENEALOGICAL TABLE of Family Affected with *Friedreich's Disease*.

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ART. XVI.—*Defective Infantile Life unrecognised by State Medicine.** By WALTER BERNARD, F.R.C.P.I. Londonderry.

It is a duty almost incumbent on those who have passed through four decades of family practice to give some experience to their College and brethren of their views on one or more of the questions called social.

On these vital questions, I do not lay claim to anything new, but having, for so long a period, waded through the drudgery of the family doctor, which can only be rendered actual in its true force by the oft quoted words—*per varios casus, per tot discrimina rerum*, I claim a hearing.

We, who have so long laboured in the fields cannot but see the importance of encouraging every movement and fostering efforts, however small, to disseminate knowledge in diagnosing those conditions of society which are unfavourable to true national progress.

The increase of populations, large armies, national debts, immigration and weaklings, are not alone the cause of our national decline. In our days barriers are raised and provision, in a given

* Read before the Section of State Medicine, in the Royal Academy of Medicine in Ireland, on Friday, April 19, 1895. [For the discussion on this paper see page 424.]

ratio, made against such contingencies. Arbitration, of late years, has successfully come to the rescue, and life and money are not so ruthlessly wasted by barbarous and unnecessary wars. And the increase of populations is to some extent met by the increase of food stuffs. The weaklings too, who in the evolution scheme were cut off as unfit, though now artificially preserved, do not live the allotted time, for in the males there is an increase in the death rate above 35 years, and in the females above 45 years. As we do not endeavour to set a limit by forbidding the banns, nature again interferes and shows that our altruism is in excess of our philanthropic measures.

In these days of Preventive Medicine, the knowledge for amending mankind cannot be merely learned. We must go to the laboratory of the household, and learn there all the social relations of domestic life. We, who are so often brought into frequent contact with its many sad realities, cannot close our eyes to evidence constantly brought under our observation, that the importance of family life is decaying. The authority of the father has declined. More requirements are looked for, more discontent, more unquiet, more unrest, and less self-sacrifice and consideration for others, especially for the old and enfeebled. Out of these apparently small matters, which are entertained and felt, but not spoken of, a hideous brood of evils frequently arises, leading on to a want of energy, and "the mother of all the evils"—idleness. This idleness and want of energy are very much promoted by youths smoking, in excess, cigarettes. In my opinion the physical and mental conditions of those young smokers show signs of damage. The right-sided disturbed action of the heart, the epigastric pulsation, and the character of the pulse with lowering of the perceptive faculties, are the factors which chiefly help to leave them behind in the struggle for existence.

To meet these and similar enfeebling practices, a step forward in the right direction would be to inculcate a consciousness in the homes of the people that the obedience of particular laws is *right*, and disobedience of fixed laws *wrong*. To enforce the necessity of making them believe in the fact of manhood, and what life really is, and how to fit themselves to the condition of life, consistent with their organisms and surroundings.

None can more fully realise how much good can arise out of work of this kind than the family doctor, who has to deal with many-sided abnormalities. He who is acquainted with the pedigrees

and histories of four and five generations cannot fail to know the singularities and eccentricities of the fathers and grandfathers. But, though the offspring tend to inherit every attribute of both parents, it does not follow that peculiarities and eccentricities which underlie disordered functions need appear; but, on the contrary, under early judicious management, as life goes on, disordered processes can be made to disappear.

On the highest authority we have it, that insanity can be arrested in its incipient stage, and that there are not only mild and transient forms of insanity with which the general practitioners have to deal, but in 1889 it was shown that they had, outside lunatic asylums, under their immediate care 27,266 insane persons. In this, as Sir Crichton Browne states, a large amount of labour and solicitude fall to the main body of our profession.

Though our management of the insane outside and inside lunatic asylums is excellent, yet our fixed rules, enormous literature, and combinations of well-established organisations in Europe and America have not diminished insanity, and at best only lop off the branches, and do not get at the root of the mischief as soon as the infant is born.

A painful impression has long since been left on my mind, that the well-known combinations of human efforts have done but little to impart knowledge to the household and to the practitioners of medicine how to deal with defective human beings in the beginning of life, by the continual operation of external circumstances.

The excellent and wise teaching of Connolly, more than a quarter of a century ago, for putting on the break in the homes, has not, as shown by the operation of time, been put in force as an applied system. And what are the results—terrible and appalling preventable disasters. Not only have suicides increased, but we have many different degrees of abnormal acts rising into high pitches of intensity, as in the Wyndham, Fergusson, and Saunderson cases.

It is too little diffused among the general public that disorders of the mental and physical faculties become manifest soon after mental existence begins, and that the early recognition of abnormalities which point to underlying disordered functions is the only safeguard towards early safe management. To the man of keen insight, extended experience and close observation, the foretelling by observation of what tendencies are in existence becomes almost prophetic.

The cranial anthropology established by Lombroso, and his exhibition of asymmetry as he illustrated it on a living specimen at the International Medical Congress at Rome, I had the advantage of witnessing. His psycho-physical views are not in accordance with my experience. Though Lombroso, in his criminal psychology, may be a genuine interpreter of Nature, and though his biological abnormalities are typical of many living cranial and facial formations, diagnostic according to his school as evidence of a criminal nature, yet I, as one of the crowd having had under my supervision somewhat similar cranial abnormalities, found that their possessors when carefully nourished, trained and watched with guarded care through childhood became excellent citizens, not only able to take care of themselves, but useful to those by whom they were surrounded.

In this as in other branches of psychology, there is an absence of precision in formulating its ascertained facts. But the family doctor's psychology is more practical. In it there is not so much of the complexity of the interaction of cause and effect, as he is afforded opportunities of almost daily observing conduct and practical welfare from childhood to middle age. In many there can be but little absence in formulating ascertained facts. He cannot fail, through such channels, to detect the early signs of the lower propensities springing up in the type of the non-ethical, who are somewhat akin to the psycho-physical formations of the embryonic criminal. This practical knowledge seems an antithesis to Darwinian and Lombroso anthropology, but many living specimens can be exhibited where the higher propensities have crushed out the lower—such as destructive tendencies, lies, thieving—which, as is well known, usually lead on to miseries and terrible disasters in the homes.

Every man and woman is, to a great extent, moulded to circumstances by the influence of circumstances. And arrests of development in the brain can be compensated for as well as arrests in the upper or lower extremities. None of this practical knowledge can be realised by the young practitioner, whose work first commences with the treatment of children. When launched into the homes of the people his guiding principles, even in infant feeding and nutrition, partake somewhat of the nature of a caricature. Without a supplied system of jurisprudence he commences to work in fields unknown, as there are no rules formulated or framed for his guidance which would carry weight and importance in domestic

life, and which would more fully ratify voluntary co-operation in prescribed rules.

In these days of stress and strain the dictates of common sense, humanity, and justice, enforce the needs that exist for teaching both lay and medical minds that mental unsoundness arises from bodily causes, which can be limited and not only controlled but crushed out by physical remedies acting on the bodily side.

My statements are deduced from positive proofs—living specimens of long standing. But I am sorry to have to state that many are determined not to listen to pure reason, or do not understand, or, perhaps, are incapable of understanding what pure reason really means. We who have survived, and have not sat passively in the stalls watching the play of Society, cannot but feel strongly on this important question. We know that neglected early warnings of mental disturbances have ended in disasters, and warnings not neglected have resulted in establishing almost normal mental and physical health, and good citizens, not only able to stand on their own individualities, but also of benefit to society in general. In this particular branch of preventive measures we call loudly for rules for the young practitioners and for the homes. One can hardly imagine, except those who have dearly bought their experience, how much threatened evil can be averted by level-headed management even in small matters. In a hygienic point of view what I here hold in my hand, as a time-table and rules for taking care of the mind and body, has in this way rendered great and good service.

If, therefore, these simple rules unstamped either by sanitary or State authority have helped by inculcating order, thrift, and cleanliness, to avert death and misery; and if this introduction of the thin end of the wedge into the hygienic imagination is productive of good results, how much more productive would be measures issued by authority, with which the members of our profession ought to be armed when engaging in family practice.

A perfection and obedience to known laws in mental and bodily hygiene can be witnessed at any time in a well-managed asylum. There is an *Esprit de corps*, from the superintendent through all grades, and on to the patients. Every man's and woman's physical and mental angularities are not only known, but carefully noted, so that he or she may be dealt with according to fixed principles. To outsiders, this judicious discipline is not realised. Nevertheless the benefits arising therefrom are eminently curative. If this be

so in the later stages of the defective, how much more so would it be in the earlier stages if somewhat of a similar supervision and knowledge were applied through the family physician.

Even the most wayward criminals can be held in check by knowing their lines of thought; and by judicious management, sympathy, and kindness, a check action can be applied. I have, here, a photograph of one of our worst criminals with a short history of his career, extending over forty years. Although apparently a hopeless case, I myself could make him a little normal from time to time by means of sympathy, kindness, attention, and good feeding. He lately died of influenza, and, I am sorry to say, my forty years' experience of his yearly defects of reason has come to an end. But the mental defects of criminals are not investigated by State Medicine as should be, so we persist in keeping the judges, lawyers, and jurors still in cloudland.

In looking back over old disasters, to say the least of it, medical expert evidence showed an absence of the *noblesse oblige* due to Medicine, "the mother of all the sciences." It was inaccurate, inconsistent, and unwise. Its un wisdom was exhibited by a determination to carry it out at any cost. The family and personal history were very frequently unknown to the so-called expert, and results very clearly pointed to the main motive, which was to get the criminal or supposed lunatic off by a jumble of words, or vague misrepresentations.

Annexed is a resolution passed at a meeting of the North West Branch of the British Medical Association, Londonderry, on February 6th, 1895:—

"Resolved—That the principles which suggest early promptitude in detecting, arresting, and dealing with mental imperfections in infantile life, are not sufficiently recognised by State Measures. And that, in consequence, the members of the North West Branch of the British Medical Association in Ireland consider, if the family doctor's duties were strengthened, for voluntary co-operation, by an applied system of jurisprudence, framed, confirmed, and recommended by State Medicine, it would tend to establish more fully in domestic life, the fundamental needs that exist in the carrying out rules for the normal formation of character in the defective, in the initial stages of existence."

ART. XVII.—*Private Hospitals, or Home Hospitals.*^a By J. W. MOORE, M.D., M.CH., B.A., Univ. Dubl.; F.R.C.P.I.; Ex-Scholar and Diplomat in State Medicine, Trin. Coll., Dubl.; Physician to the Meath Hospital; a Professor of Practice of Medicine, Royal College of Surgeons in Ireland; President of the Dublin Sanitary Association.

THIS is essentially the age of Nursing Institutions and of Private Hospitals—both excellent things in their own way, but a little apt to be overdone. Vast numbers of young women are adopting the calling of a sick-nurse as their life-work, and yet it is to be feared that only a small minority of those who enter upon their probation have formed any definite idea of the solemnity of the work in which they are about to engage, of its arduous and exacting nature, its imperious demands upon bodily strength, health, patience, and temper, its dangers and its temptations. *Poeta nascitur—non fit.* In the case of the nurse, the opposite is more nearly true—the nurse is made, not born, although no doubt there is some advantage in a natural predilection and in innate powers of mind and body.

My present theme, however, is not nursing, but the care of the sick, who are not poor in the ordinary sense of the word. And, here again, we are face to face with a latter-day, extravagant development of what every humane thinking man or woman must regard as a real boon to suffering mankind—the Home Hospital. “It is quite certain,” says Sir Douglas Galton,^b “that many persons, even of the fairly well-to-do class, would have much better chances of recovery from either sickness or injury in a well-administered hospital than in their own homes. This is especially the case with the less well-to-do.” Within the past decade, however, there has been in most large towns, and particularly, I think, in Dublin, a veritable mushroom growth of so-called “Private Hospitals.” These institutions have been started either by individual physicians or surgeons, or by a few members of the Medical Profession acting in “partnership by deed or otherwise,” or by an experienced and fully trained hospital-nurse, or by one or more benevolent ladies without any very special training in sick-nursing. In fact, it

^a Read before the Section of State Medicine in the Royal Academy of Medicine in Ireland, on Friday, April 19, 1895. [For the discussion on this paper see page 426.]

^b *Healthy Hospitals.* Oxford: The Clarendon Press, 1893. Page 7.

seems as though people thought that anyone at all was quite competent "to run" a private hospital, and that so praiseworthy an ambition should be indulged without let or hindrance.

The object of this short paper is, if possible, to show that such a view is a mistaken one—that the institution and administration of a Private Hospital call for the exercise of exceptional mental and bodily powers—are quite incompatible with the practice of the medical profession, which should ever be carried on "in stille Demuth und Hoffnung;" should be subject to inspection by the sanitary—or some other responsible—authority, and should be conducted on sound financial, or, if you will, commercial principles.

Webster's *International Dictionary of the English Language* (London: George Bell & Son, 1890) defines a hospital as "a building in which the sick, injured, or infirm are received and treated; a public or private institution founded for the reception and cure, or for the refuge, of persons diseased in body or mind, or disabled, infirm, or dependent, and in which they are treated either at their own expense, or more often by charity in whole or in part." This is a comprehensive definition, which includes the class of hospital about which I am now speaking, and the necessity for which no one would dream of doubting at the present day. To my mind, the term "Home Hospital" is more fitting than Private Hospital, for our object is to provide for the sick a home in the truest and fullest sense of the word; a home, where he will be cared for by skilled hands, under the direction of his attendant physician or surgeon, and amid the best possible surroundings from a health point of view.

Are these last-named requirements fulfilled in most or, indeed, in any of the so-called private hospitals in Dublin? Certainly not. A house, built many years ago, possibly in the last century, situated in a noisy street, and intended for a family residence, is rented or purchased. The exterior is touched up with a coat or two of paint, clean curtains and blinds are put in the windows, the rooms are papered and painted, the drains are inspected, perhaps relaid, the words "Home Hospital" are painted across the hall-door, or else the knocker is taken off, and all clue to the name or description of the occupants is carefully removed, and—hey, presto!—there is our private hospital. Now, what are the external and internal surroundings of the patients?

Outside, in front, is a noisy, dusty or muddy, ill-swept, dirty thoroughfare; in the rear, the windows look out over a narrow strip of town garden, flanked by high and ugly stone walls, fenced in and overlooked by a dingy stable, beyond which are seen endless roofs and chimney-stacks of what are called in London "mews," but what in Dublin are really third-class tenement houses. The jingling bells and grating roar of passing tramcars, street cries, and the hideous discord of mingled vocal and instrumental street music—save the mark!—scarcely cease "from morn to noon, from noon to dewy eve."

Inside, we find a state of things which seriously militates against the recovery even of a member of a private family who has been stricken by illness while living in an ordinary Dublin residence. No privacy, no chance of quiet or of undisturbed rest. A house 25 or 30 feet in width, flanked by a similar building on each side, the party-walls readily transmitting musical and other sounds or noises, reception-rooms on two landings separated only by folding doors, bedrooms superimposed in the two topmost stories, every footstep in the uppermost being audible in that which is underneath, the patient's food placed on a table on the landing outside his bedroom, exposed to the dust and contamination of the staircase: *one water-closet*; and, as likely as not, *no bathroom*. Either the patient has to be carried up to the third or fourth story of a house 60 feet high, when he and his attendants will probably be a nuisance to his fellow-sufferers below him; or he will be placed in a front or a back drawing-room, or a front or a back parlour, partitioned off only by folding doors. It has been my lot to attend a gentleman suffering from typhoid fever in a back drawing-room, while another—the victim of nephritis—occupied the front drawing-room in a first-class private hospital in Dublin. Every sound produced in one room was heard in the other, and there was no such thing as privacy or quiet. On another occasion, messages were repeatedly sent in from another private hospital to the adjoining house to request that piano-playing should be discontinued, as it disturbed a restless patient. Now, such a request would be quite justifiable and reasonable if the illness prevailed in a private family; but I, for one, would pay no heed to it if the illness had been deliberately brought into my neighbour's house posing as a private hospital.

And, now, a word as to the control of these hospitals. Our

general and special public hospitals are subject to both intern and extern control. A managing committee, annually elected by the governors and subscribers out of their own number, meets periodically—every week or every fortnight—and exercises a searching supervision over the administration of the institution. Then, the hospitals which participate in the Parliamentary grant are under the control of the Board of Superintendence of Dublin Hospitals; while those which receive grants from the Corporation are periodically visited and criticised by representatives of that body, which is also directly represented upon the managing committees. Lastly, the Dublin Hospital Sunday Fund exercises a wide-spread and highly beneficial influence over the institutions which participate in the grants from that fund. These hospitals further hold annual meetings, which are widely advertised and are open to the public. At these meetings a report is read, criticised and adopted or amended. So also is a statement of accounts. In a word, the public hospitals are in the full blaze of “the fierce light which beats upon a throne.”

But what of private hospitals? They stand in No Man's Land. There is, as a rule, no managing committee. They enjoy an irresponsible, but reprehensible, freedom from governmental, municipal, or philanthropic control. Their history is unwritten from year to year; their balance sheet is an unknown quantity, sometimes represented by x , more frequently, perchance, by 0. No reliable information is forthcoming as to the nature of the cases which have been under treatment; but it is repeatedly asserted by friends of these institutions that no infectious cases are received or treated, and that, therefore, they cannot be looked upon as a menace to the public health. Yet, are these dogmatic statements to be accepted without question? Surely, tubercular cases are treated in private hospitals—and cases of surgical as well as of medical tuberculosis. Will not these infect the sick-room? Bacteriological investigation of the dust in rooms at Mentone has revealed the presence in that dust of numerous *Bacilli tuberculosis*. Are our private hospitals more fortunate? Does erysipelas never occur in them? Or septicæmia and pyæmia? Or scarlatina? Or enteric fever? Why, the last-named disease is a fertile source of income year by year to such institutions. Are typhoid stools disinfected or destroyed, or are they allowed to pass, infective as they are,

into a possibly defective house-drain or main sewer? Are pocket-handkerchiefs sent to the laundry direct from tubercular patients, or soiled linen from operation cases? None of these breaches of sanitary law may happen; but, if we have no evidence that they *do occur*, we have equally no evidence that they *do not occur*.

What about the construction, ventilation, heating, and cleansing of private hospitals? Sir Douglas Galton aptly observes* :—"The attention which has been given of late years to the management of sick and injured persons, in connection with the investigations which have taken place into the causation of disease, have led to a considerable development of the practical application of hygienic principles to hospital construction."

He proceeds :—"These general principles of construction may be assumed to be similar under all circumstances. That is to say, in every hospital it is necessary that the building be so arranged that it shall stand on a pure soil; that it shall be supplied with pure water; that it shall be permeated with pure air; and that its cleanliness shall be ensured by abundance of light."

It is clear from this passage that Sir Douglas recognises that an ideal hospital should be built from the foundations, with special reference to the purpose for which it is intended, although he admits (page 17) that "we meet with hospitals converted from ordinary houses, where a scrupulous attention to cleanliness and the maintenance of a large floor space in the wards have produced satisfactory results."

Dr. Roger McNeill, in his recent work on "The Prevention of Epidemics and the Construction and Management of Isolation Hospitals,"^b says—"If it is of great importance that healthy sites should be chosen for dwelling-houses intended to be occupied by the strong and vigorous, it is of still greater importance that the site for a hospital should be healthy, as it is intended to be occupied by the sick. Persons in ill health are more susceptible to all deleterious influences than the healthy."

I venture to make one further quotation. In the Report of the Medical Officer of the Privy Council for 1864, Mr. (now Sir John) Simon wrote as follows :—"That which makes the healthiest house makes likewise the healthiest hospital; the same fastidious and universal cleanliness, the same never-

* *Healthy Hospitals*. Oxford: The Clarendon Press. 1893. Page 12.

^b London: J. & A. Churchill. 1894. Page 88.

ceasing vigilance against the thousand forms in which dirt may disguise itself in air and soil and water, in walls and floors and ceilings, in dress and bedding and furniture, in pots and pans and pails, in sinks and drains and dustbins. It is but the same principle of management, but with immeasurably greater vigilance and skill; for the establishment which has to be kept in such exquisite perfection of cleanliness is an establishment which never rests from fouling itself, nor are there any products of its foulness—not even the least odorous of such products—which ought not to be regarded as poisonous.”

Enough has been said to vindicate the contention for which I strive, that a “Home Hospital” should be housed in a building especially constructed for the purpose on an eligible site. It should be a detached building, separated from adjoining habitations by “a zone of aeration unincumbered with buildings, &c., to a distance of twice its height.” (Dr. F. J. Mouat and Mr. H. Saxon Snell).^a If possible it should be a one-story building. In an article on the “General Principles of Hospital Construction,” Dr. Francis H. Brown, of Boston, Massachusetts, writes b:—“Private wards should be of a size to accommodate one or, at most, two beds, and a certain number of them should have connecting doors for the convenience of friends or private nurses; separate water-closets and bath-rooms, and open fire-places should be provided for each room.”

There is no need in this paper to go into details as to the construction of a “Home Hospital;” but I hold strongly that it should be as carefully built as any General Hospital. Its external walls of brick or stone should be two feet thick; its party walls should be fourteen inches thick. Its foundations should be sufficiently elevated to raise the lower floor—if there is more than one story—six or eight feet above the surface of the ground. At this level a four-inch layer of cement should be laid down, the intervening space under the floor being used exclusively for purposes of heating and ventilation (Francis H. Brown, *loc. cit.*). The walls must be damp-proof, faced with either Parian cement or closely-set glazed tiles, or with a layer of soluble glass, as recommended by Dr. Luther.^a The floors

^a Hospital Construction and Management. Part I. 1883. London: J. & A. Churchill.

^b Buck's Hygiene and Public Health. Vol. I. Page 765. New York: William Wood & Co. 1879.

should be joined to the walls by a concave moulding, as in the Johns Hopkins Hospital at Baltimore, U.S.A., so as not to allow any angle to exist for the accumulation of dust. They should be made of narrow strips of close-grained hard wood, such as oak or teak or seasoned deal, dove-tailed into each other, or "with matched joints, blind-nailed" (F. H. Brown). The corners of the walls should be bevelled concavely, and there should be also a concave moulding between the walls and the ceiling, which latter should be painted rather than distempered or whitened, unless the white-liming is sufficiently often repeated to maintain the antiseptic properties of the process.

Heating, ventilation, lighting should be on the most approved lines. The sanitary arrangements should be above suspicion. The kitchen and laundry should be kept rigidly apart from the patients' bedrooms and dayrooms; and in a two-story house these departments should be placed in the higher story. Under no circumstances should the drains be carried under the foundations of the hospital buildings.

This is what a private hospital or home hospital should be.

But, lastly, such an institution should be licensed, and freely open to periodical and systematic inspection by the sanitary authorities of the district in which it stands. It should be managed by a committee, the members of which would inspire confidence and command respect, and to which the officials would owe allegiance. Its finances should be controlled by this committee, and a report and statement of accounts should be published at least once a year.

If all this were done we should have private hospitals worthy of the name. And in them persons of refinement and culture might, when suffering from sickness or injury, enjoy the advantages of medical or surgical care and good nursing, together with that privacy and quiet which, in such cases, so largely conduce to comfort and even to recovery.

It is but fair to state that Mr. Henry C. Burdett, whose work on "Pay Hospitals of the World" is so widely known, was the originator of Home Hospitals. So far back as 1879 he founded the first Home Hospital, Fitzroy House, Fitzroy-square, London, which has prospered greatly and has proved an immense boon to the profession.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Prevention of Epidemics and the Construction and Management of Isolation Hospitals. By ROGER M'NEILL, M.D. Edin., D.P.H. Camb.; Medical Officer of Health for the County of Argyll, &c. With Illustrations. London: J. & A. Churchill. 1894. 8vo. Pp. 247.

THE title of this work predisposes the reader to look upon the author as a man of common sense and sound judgment. It speaks of the "Prevention of Epidemics" and of "Isolation Hospitals." Surely, these are topics which bespeak an attentive hearing and appeal to a wide circle of readers. In his preface Dr. McNeill tells us that the designation "Isolation Hospitals" has been adopted on the title-page in preference to either "Fever" or "Infectious Hospitals." He shrewdly adds, "A 'Fever Hospital' does not convey a pleasant idea to the public mind." . . . "Isolation hospitals are still regarded by the public as a source of danger to persons living in their vicinity." The object of this book is to show that such buildings may be constructed and managed in such a way as to be of no danger whatsoever; that the existence of an isolation hospital in a locality is a guarantee that proper measures are being taken against the spread of infection; and, lastly, that a person suffering from an infectious disease and treated apart in an isolation hospital is placed under the most favourable conditions for his own recovery. "The separation of the infectious sick from the healthy is the primary object of such hospitals, and the designation, 'Isolation Hospital,' conveys this idea better than either 'Fever' or 'Infectious Hospital.'"

Dr. McNeill brings high qualifications to bear upon the accomplishment of his self-imposed task—the writing of this book. He is Medical Officer of Health for the important county of Argyll, and he was formerly Resident Medical Officer in the Infectious Hospitals of the Metropolitan Asylums Board at

Homerton and Deptford, London, and to H. M. ships "Atlas" and "Endymion" at Greenwich.

The work before us may be looked upon as divided into two parts. The first of these is introductory, and consists of four chapters. The dissemination of infectious diseases, the influence of effective measures against the spread of infection, the gain to the community through the adoption of such measures, and the nature of infection and its influence on the construction and management of isolation hospitals are the topics discussed in this part of the work. "Infectious diseases," writes Dr. McNeill, "may be compared to a fire, and the population to the combustible material. In towns the combustible material is lying in heaps, and when the spark falls the spread and destruction are more rapid. But even in more sparsely-peopled districts the material is sufficiently continuous to enable the flame to spread, if with slower, yet with equally fatal steps. In the case of infectious disease, the spark cannot be immediately extinguished, as may be done in the case of a fire; but, fortunately, it can be removed or isolated. The patient may be separated from the healthy if a case occurs in a house of sufficient accommodation, and if not he can be removed to a hospital, if such accommodation is provided."

We would commend Chapter V., containing much valuable information as to the establishment and erection of isolation hospitals, to two classes of readers—first, those who grumble at the costliness of the upkeep of an epidemic hospital like Cork-street Fever Hospital; and, secondly, those who are theoretically right, but practically wrong, in wishing to remove those ill of infectious diseases to a hospital situated at a distance.

As to the first point, Dr. McNeill aptly points out that, while the expense of erecting and maintaining isolation hospitals may, at first sight, appear to be out of proportion to the small number of patients *treated* in them, it should not be forgotten that the primary object of providing such hospitals is to *prevent infection from spreading* by the seclusion or separation of persons suffering from infectious ailments from all who may be susceptible to catch these diseases.

Dr. McNeill, in pointing out that the distance to which patients suffering from infectious diseases may be conveyed with safety to a hospital is a matter for serious consideration, expresses the opinion that *the great majority* of cases may be conveyed consi-

derable distances during the first few days of their illness without any danger. Now, this is a statement the accuracy of which we are much inclined to call in question. Patients suffering from cholera, pneumonic fever, enteric fever, typhus, and the severer forms of small-pox and scarlatina bear moving badly, and life is not infrequently jeopardised, if not sacrificed, by injudicious removal to hospital in all weathers, and to too great a distance. If fever runs high, the unwonted exertion attendant upon even a short journey may fatally exhaust the heart. "The feeling of the population," Dr. M'Neill, with truth, observes, "should also, to a certain extent, be considered in settling the distance patients are to be conveyed to a hospital. There is, in some places, a feeling among many against sending their friends to a distance. This might militate against the use of the hospital afterwards. The nearer a hospital is provided, the greater the chance of its proving beneficial."

In succeeding chapters the author treats of hospital construction, disinfection, hospital management, and private sanitary aid associations. Chapter IX. includes a full *précis* of the evidence tendered before the Fever and Small-pox Hospitals Commission by Mrs. Francis Johnstone, the Manager of the Sanitary Aid Association at Hastings, together with some of the rules of this Association.

The Appendix includes a number of hospital plans, and is splendidly illustrated, so as considerably to enhance the value of Dr. M'Neill's book as a work of reference and a standard authority on hospital construction.

There are a few errors and still fewer omissions in the work. "Zeimssen" is repeatedly printed for "von Ziemssen." "Nett" for "net" occurs on page 33. On page 105, Dr. Francis H. Brown, of Boston, Massachusetts, is credited with the authorship of the important statement that "a hospital should be surrounded by a zone of aeration unencumbered with buildings, &c., to a distance of twice its height." The real authors were Dr. F. J. Mouat and Mr. H. Saxon Snell, in their book on "Hospital Construction and Management," published in two parts in 1883 and 1884, by Messrs. J. & A. Churchill. "Johns Hopkins" is printed "John Hopkins" on more than one occasion. Lastly, in the chapter (VII.) on "Disinfection" no mention is made of the comparatively cheap and highly efficient apparatus designed by A. B. Reck, of Copenhagen, which is now

attracting great attention in England, having already earned a conspicuous reputation in Scandinavia and also in France and Germany.

Dr. McNeill's work is beautifully printed by Messrs. R. & R. Clark, of Edinburgh, and is published in first-rate style by Messrs. J. & A. Churchill, of London.

Handbook of the Clinical Research Association, Limited, 1 Southwark-street, London Bridge, S.E. Pp. 42.

THE Clinical Research Association was instituted in September, 1894, and has already attained a very considerable measure of success. The confidence reposed in the management of the Association is borne testimony to by the long list of subscribers with which this "Handbook" closes. It extends over 19 of the 42 pages of which the "Handbook" consists, and includes well-known names of medical practitioners in all parts of the United Kingdom.

The object of the Association is to assist medical practitioners in the prevention, diagnosis, and treatment of disease, and in the investigation of the causes, progress, and results of morbid processes, whenever help to this end may be gained by accurate reports on the results of microscopical, chemical, or bacteriological examinations. For the transmission of specimens the Association provides bottles of various sizes, some filled with preservative fluid, and each contained within an addressed postal box, which is easily and securely fastened by gumming, and is then ready for transmission by hand or through the post. Eighteen such bottles and boxes—six intended for urine, six for sputum, diphtheritic membrane, &c., and six for portions of tumours or solid tissues for histological examination, and accompanied by instructions for sending specimens—are forwarded, post free, for five shillings. To each bottle is attached a label, on which should be stated the sender's name and address and the nature of the investigation required. For the transmission of blood for the estimation of the amount of hæmoglobin, the number of corpuscles, and so on; of diphtheritic exudations for bacteriological examination; and of drinking water for analysis, special apparatus is sent immediately on application.

In the "Handbook" full directions are given for sending specimens, and a scale of charges is included. These are

extremely moderate, considering the technical nature of the work to be done.

Reports are made only to registered medical practitioners. There is no entrance fee or annual subscription at present, but all medical practitioners who subscribe five shillings to the Association before the end of 1895 will receive, in return for their subscription, a box of eighteen bottles and postal packages, will be enrolled as original members, and will be exempt from any entrance fee or annual subscription, should it be subsequently found necessary to institute one.

It only remains to mention that the Association is under the highest professional patronage. The directors of the laboratory are J. Galloway, M.D.; J. H. Targett, M.S.; and F. G. Hopkins, M.B., B.Sc. The Secretary of the Association is Mr. C. H. Wells, to whom all communications should be addressed, at 1 Southwark-street, London-bridge, London, S.E. The telegraphic address is—"Tubercle, London."

An Atlas of Illustrations of Pathology, compiled (chiefly from Original Sources) for the New Sydenham Society. Fasciculus IX. Diseases of the Testis (Part I). (Plates XLII. to XLVI.) London: The New Sydenham Society. Agent—H. K. Lewis, 136 Gower-street, W.C. 1894.

THIS, the ninth fasciculus of the Atlas of Pathology, forms the one hundred and fifty-first volume of the publications of the New Sydenham Society, and is the second of the series for the thirty-sixth year (1894).

It includes five plates, with descriptive letterpress. All the plates have been executed in first-rate style by Messrs. West, Newman & Co. The first three are plain lithographs; the last two are chromo-lithographs. Plate XLII. includes seven figures, all of which are taken from Sir Astley Cooper's great work on the testis ("Observations on the Structure and Diseases of the Testis." 1841). Most of the figures forming Plate XLIII., which illustrates hydrocele and varicocele, and Plate XLIV., are taken from the same work. In Plate XLV. the chief forms in which tertiary syphilis affects the testis are shown in six figures, all of which are from original drawings in Mr. Jonathan Hutchinson's collection. Plate XLVI. includes three figures of tumours of the testicle, together with one coloured drawing of

gumma of that organ. All these figures are also from original drawings in Mr. Hutchinson's collection.

The subject of diseases of the testis is to be continued in a future fasciculus.

Medical Handbook of Life Assurance, for the use of Medical and other Officers of Companies. By JAMES EDWARD POLLOCK, M.D., F.R.C.P., Consulting Physician to the Hospital for Consumption and Diseases of the Chest, Brompton, &c.; and JAMES CHISHOLM, Fellow of the Institute of Actuaries, London, and of the Faculty of Actuaries, Scotland, &c. London: Cassell & Co. Fourth Edition. 1895. 8vo. Pp. 214.

OUR opinion of this work is unaltered. When reviewing the first edition, on its appearance in 1889 (Vol. LXXXVIII. No. 213. Third Series. September, 1889), we ventured to assert that "no more important contribution to the literature of the subject has appeared since the publication, in 1874, of Sir Edward Sieveking's well-known text-book, 'The Medical Adviser in Life Assurance.'" We still hold that the work before us is a good book, marred by not a few blemishes in style and some glaring grammatical solecisms.

The work has been highly successful, for a fourth edition has been called for within six years of its first publication. In their preface to the present issue the authors gratefully acknowledge the warm reception accorded to their book. They express the belief that in many instances a greater uniformity in rating "second-class lives" has been attained. They direct attention to the recent institution of The Life Assurance Medical Officers' Association, for the purpose of an interchange of knowledge and of obtaining a greater precision in advising. They point out that advances have been made in treatment for insurance purposes of proposers who have suffered from temporary albuminuria or glycosuria, or from mitral valve disease, with the result that cases which used formerly to be declined are now accepted at an enhanced premium. Reference is made to the great increase of life assurance in the Colonies, and especially in South Africa, Canada, Australia, and India, to the local medical advisers in which countries we naturally and properly look for guidance as to the peculiarities of the diseases

which there prevail, the climatic conditions, the habits of settlers, and the duration of native life.

The body of the volume remains much the same as it was in 1889. On the actuarial side a new table of premiums takes the place (on page 18) of the table of the expectation of life, or "average after-lifetime," which was based on the "H^M Mortality" of the Institute of Actuaries—that is, the mortality-rate derived from the experience of *Healthy Males*, whose lives had been assured with twenty British Life Offices. This "Table of Extra Premiums" has been drawn up to assist medical officers of companies in advising the additional premium, if any, which should be charged in the case of an under-average life when the risks are such as increase with age.

Die Histopathologie der Hautkrankheiten. Bearbeitet von Dr. P. G. UNNA. Berlin: Hirschwald. 1894. Pp. 1225.

THIS truly monumental work appears as a supplementary volume of Professor Orth's *Lehrbuch der speciellen pathologischen Anatomie*. It represents the views of one of the most eminent dermatologists on a subject of which we have hitherto had but little knowledge. These views are the outcome of original observations, and are the fruit of an industry which it is not too much to call marvellous.

In his preface Dr. Unna points out the peculiar position occupied by cutaneous pathology. In the case of most organs we are limited to the examination of specimens taken after death, and to the observation of parts whose appearance during life is unknown to us; but in the case of the skin, we can always obtain fresh living material for examination, and, moreover, we know the appearance of the diseased parts and the relation which they have to the whole morbid condition. We can, therefore, conduct our microscopical examinations with eyes schooled by clinical observation, and direct our clinical researches in the light of what we have learned by the use of the microscope. Furthermore, there are many pathological conditions which we know clinically only by observing them in the skin, and what we learn from their observation we apply to the explanation of similar conditions in internal parts. The anomalies of circulation, the neurotic inflammations, the catarrhal conditions, and many others we know only by

observing them in the skin. Hence the importance of an accurate skin pathology to the general physician.

But hitherto such accuracy was not attained. The anatomical sections of the works on dermatology formed only a sort of decorative appendage to the clinical descriptions, and many diseases whose clinical differences were distinct, were supposed to present the same pathological changes when examined histologically. Such a want of harmony was insufferable. If two diseases differ clinically, they must also differ anatomically, and if there are anatomical differences, these must show themselves in the clinical appearances.

When, then, five years ago the author undertook to write this volume, he had two courses either of which he might take. The one was to collect the observations already made, to sift them critically, and to endeavour to unravel the tangle of literary misunderstanding, to reject that which was altogether worthless, but to conclude each chapter with an "Ignoramus." This course would be relatively easy but useless, and calculated to discourage future workers. The other course was to work again with fresh material over the entire field of cutaneous pathology from beginning to end—"an inspiring undertaking, but one evidently beyond the powers of any one labourer in the space of five years." This is the course, however, which Dr. Unna has chosen, "feeling that even an imperfect view of what may be looked for in the future is better than a sad and dispiriting retrospect." Many difficulties had to be encountered. The supply of fresh material from his own clinics was supplemented by the contributions of many friends and colleagues. New histological methods had to be devised. Hitherto too exclusive attention has been given to the nuclei; and the crowds of newly-formed nuclei, the round cells, embryonal tissues, and so on of pathologists have diverted observation from other not less important objects. The protoplasm of the different cells and its alterations, the different inter-cellular substances, the demonstration of micro-organisms in horny and other deeply staining parts, all these had to be investigated by new methods. In the discovery of these Dr. Unna has been extraordinarily successful, and in the successive numbers of his *Monatschrift für praktische Dermatologie* he has published details of his histological methods which have yielded valuable and hitherto unknown results, and by the discovery of these methods, he has deserved the gratitude of all those who use the microscope not only for pathological research, but also for the study of normal anatomy.

These new discoveries necessitated a new nomenclature, which, however, is not difficult to master, and is explained fully in page xiii. of the preface.

As the result of his five years' work, Dr. Unna has produced a work which will for a long time to come be the principal source of our knowledge of dermatopathology. We do not say that much that is contained in its pages will not need revision. Its author would be the last to maintain this. But we are convinced that a solid foundation has been laid for future advance, and that we possess now what we never had before, a complete account of the pathological changes in the skin, so far as present research can carry them.

There is one thing which will, we think, be regretted by every reader of this great work, that is the omission of drawings. An admirable coloured plate, containing 19 figures, illustrating many of the new staining methods of the author, is all the pictorial illustration the work contains. It is often very hard to follow a histological description in words, while a drawing or two makes the whole thing plain in a moment.

The matter is divided into six sections—I. Anomalies of Circulation. II. Inflammations. III. Progressive nutritive disturbances. IV. Regressive nutritive disturbances. V. Malformations. VI. Saprophytes and foreign bodies. It would far exceed the space at our disposal to give even the sub-divisions of the matter in the different sections, much less an analysis of the different chapters. But we can say that the work is one which, while it is indispensable to all dermatologists, appeals also to all practitioners and pathologists.

The pathological description of each disease is preceded by a short but remarkably clear account of its clinical features. This is of great importance, as much confusion has arisen from the description of different conditions under the same name.

In most cases the amount of material from which the descriptions are drawn is abundant, but in some instances the rarity of the disease is such that the descriptions are little more than those of particular specimens. These, however, given by one so experienced in the anatomy and pathology of the skin, and so thoroughly versed in all details of histological technique, have a very high value, and will furnish a good starting point for future investigations.

The entire work has the highest importance, not only for what it itself contains, but for the promise it gives for the future. Its

influence on dermatology must be immense, and its effects on the progress of medicine, and pathology in general, cannot but be widely and beneficially felt.

We would most heartily congratulate Dr. Unna on the completion of this truly great work—a work which will be for many years to come the principal store-house of our knowledge of the pathological anatomy of the skin.

Reports from the Laboratory of the Royal College of Physicians, Edinburgh. Edited by J. BATTY TUKE, M.D., and D. NOEL PATON, M.D. Vol. V. Edinburgh: William F. Clay. 1894. Pp. 244.

In this volume we find new evidence of the continued vigour and usefulness of the Edinburgh Laboratory. In the preface we read that during the two years which have passed since the publication of the last volume, besides the twenty-eight original investigations now recorded, 700 reports on specimens have been issued, and upwards of 900 photographs of patients and specimens have been made. There can be no doubt that the Committee is justified in its belief, "that by fostering original research, and by affording facilities for the more thorough scientific investigation of disease, which is daily increasing in importance, and for which such a laboratory is essential, the institution continues to fulfil the purpose for which it was originated by the College."

In the present volume certain changes have been made. Most of the investigations made in the laboratory have been already published in different journals, so that it was considered useless to again print them *in extenso*; consequently, except in a few cases, abstracts only are here given, and none of the original drawings have been reproduced. This change, although diminishing the interest of the volume, yet allows of a more concise display of the work done; and the volume, although representing the work of two years, is considerably smaller than its predecessors.

The papers, twenty-eight in number, are classified under the headings—Anatomy, three papers; Physiology, five papers; Pharmacology, three papers; and Pathology, seventeen papers.

A valuable paper by Dr. Gulland on the Development of the Lymphatic Glands, is followed by one on the Anatomy of

advanced Pregnancy in *Macacus Rhesus* as studied by frozen sections, by Drs. Berry Hart, and Gulland. In this work there are most interesting and important views put forward on the structure of the placenta.

Among the physiological papers we find Dr. Noël Paton's well-known work on Hepatic Glycogenesis, which was published in the *Philosophical Transactions*. In this he maintains that the rapid change of glycogen to sugar, which occurs immediately after death, is due to the continued vital activity of the hepatic cells, while the later and much slower change is due to the action of a zymine, probably developed during the disintegration of the liver cells.

This is followed by four papers by Dr. Gillespie, all dealing with the physiology of gastric digestion—on the gastric digestion of proteids; on the bacteria of the stomach; some practical results from the chemical examination of the contents of the healthy stomach; and some simple methods for the analysis of the gastric contents. These papers give evidence of most careful work, and are full of matter, the clinical importance of which can scarcely be over-estimated.

Among the pharmacological papers, also, is one by Dr. Gillespie, on the action of acids and alkalies and of some other drugs on the secretions of the body in health and disease, with special reference to their action in gastric acidity and digestion. From his researches the author concludes that alkalies increase and acids decrease the gastric acidity if given before food; that if acids are given after food a difference is noticed according as digestion is well performed or defective; in the former case the acidity is increased, in the latter much less so.

Among the papers on pathological subjects are many of great interest. Dr. Noël Paton finds that if the temperature of an animal be raised by placing him in a hot place, there is evidence of increased transformation of hepatic glycogen to glucose. But if the temperature be raised by injection of a sterilised yeast culture, the glucose of the blood and the glycogen of the liver are both diminished. Hence in true specific fevers the micro-organismal poison inhibits the glycogenic function of the liver. He points out that in fevers, the other functions of the liver are also impaired—namely, the secretion of bile and the formation of urea from its ammoniacal precursor.

Dr. Boyd contributes three papers on albuminuria. He finds

that in most cases of albuminuria both serum albumin and globulin are present, but that their relative proportion cannot be used for diagnosis; that in some cases only one proteid is present, and that the proteids are probably not transuded from the blood, but are actively separated or secreted by the glomeruli.

A paper by Dr. Fordyce on intrauterine ascites; three papers by Dr. Ballantyne on different questions of foetal pathology; two papers by Dr. Webster, on the developmental changes in tubal gestation, and on the occurrence and signification of rotation of the uterus; papers on paroxysmal hæmoglobinuria, by Dr. Gillespie; clinical and bacteriological notes on a case of traumatic tetanus by Messrs. Dowden and Houston; vaccination eruptions by Dr. Poole; and a work on pachymeningitis chronica externa, by Dr. Thomson, complete the volume.

Transactions of the Royal Academy of Medicine in Ireland.

Vol. XII. Edited by WILLIAM THOMSON, M.A., F.R.C.S.,
General Secretary; Surgeon to the Richmond Hospital, Dublin.
Dublin: Fannin & Co. 1894. Pp. 408.

OUR Academy of Medicine has little history to record for 1893-1894. If it is not growing in numbers it is, at least, not declining; and in the value of the papers read at its meetings there is certainly no falling off, from either the scientific or the practical point of view. Of the thirty members two are ladies. The students still hold aloof. Of the hundreds who are eligible *five* are on the roll.

On the contents of this volume of Transactions it is unnecessary to make any detailed remarks. A large proportion of the papers appears in our own pages, and the Academy's Transactions will be in the hands of most of our readers. We shall only note, in passing—and with approval—the absence of any allusions to the prevailing epidemics, appendicitis and symphyseotomy; and ask special attention to one paper devoted to a subject of great and growing importance.

During the Session Dr. H. C. Tweedy read a paper, before the Section of State Medicine, on "Some Points in Connection with the Administration of Hospital Relief" in Dublin. We have long been of the "many persons who believe that the amount of intern hospital accommodation in Dublin is in excess of the needs of the population." It is: and it is, also, in excess of the means of private

beneficence to maintain it in efficiency. Were it not for public and quasi-public subventions, and "special efforts" of a more or less legitimate character, the hospital system of the city would collapse. Dublin is over-hospitalled, and yet—more hospitals are rising! Within a year a new and absolutely unnecessary hospital has been established. Another large institution is rapidly rising, which will cost, at a low estimate, £8,000 a year to maintain, and which will intensify the struggle of the existing hospitals to keep their wards fairly full. Beds must be filled, and if the supply of patients whose circumstances justify gratuitous treatment falls short, there is no lack of others more than willing to step in.* The amalgamation of two hospitals, which is contemplated, will, if carried out, diminish the burden of the hospital-supporting public; but it will not diminish the number of persons who are permitted to abuse medical charity.

Dr. Tweedy passes lightly over the misappropriation of intern hospital accommodation. He devotes himself to two other grievances under which the charitable public and the medical profession labour. These are pay-wards in hospitals, and the abuse of hospital dispensaries. As regards the former, he points out that "gradually a privilege that was intended only for persons in specially *straitened circumstances* is being usurped by—I will not say a better, but a better-off class." Everyone knows that this is so. "The cost of an ordinary patient per diem is 3s. 9d., if we include maintenance, establishment, and management. Few pay-patients give more than £1 1s. per week, so that in the majority of instances the hospital loses at least 5s. 3d. per week, not to mention the fact that such patients cost considerably more for maintenance, inasmuch as they require many additional comforts not supplied to ordinary patients." So much for the subscribers to hospitals; the advantages to the practitioner are obvious enough!

As to the out-patient abuses, it will be sufficient to give some of Dr. Tweedy's figures. The population of the city and suburban districts, which supply out-patients to the Dublin hospitals, was, in 1891, 356,240. For this population 27 poor-law dispensaries are maintained, which, in one year, relieved 100,216 persons. What have the out-patient departments of the 24 hospitals done in addition? They have treated 30,695 accidents, and 4,574 extern

* Not long since, in the course of certain legal proceedings, it came out incidentally that a man had been a patient in a charitable hospital for some weeks, whose ordinary wages were five guineas a week.

midwifery cases; and an estimated number of 36,412 ordinary cases: total, 71,680. These figures represent the quantity of gratuitous out-patient relief. As to quality, we shall conclude with an extract from Dr. Tweedy's valuable paper:—

"To anyone making a tour of these [hospital] dispensaries the following facts will be apparent—1st. The general air of respectability in the patients,* the very poor class by no means predominating. 2nd. The invariable presence of a considerable percentage of persons who obviously should not be recipients of charity. 3rd. The very low percentage of serious or even interesting cases of disease presenting themselves for treatment. 4th. A number of familiar faces—old stagers—who spend their time aimlessly wandering from one dispensary to another, and when they are driven out of one, proceeding, as Mark Twain once put it, 'to confer their disastrous patronage on some other firm.' These may frequently be seen tasting each other's medicine, and making critical and sometimes uncomplimentary remarks upon the hospital and its staff."

On the Geographical Distribution of Tropical Diseases in Africa, with an Appendix on a New Method of Illustrating the Geographical Distribution of Disease. By R. W. FELKIN, M.D., F.R.S.E., F.R.G.S.; Lecturer on Tropical Diseases and Climatology, School of Medicine, Edinburgh. Edinburgh: William F. Clay. 1895. Pp. 79.

IN these days, when the European nations are eagerly competing in disinterested effort for what the author quaintly calls the "civilisation" of Africa, Dr. Felkin's re-print will be useful. The compilation was prepared at the request of the Committee of the African Ethnological Congress, which met at Chicago in 1893. The paper has appeared in the *Proceedings of the Royal Physical Society of Edinburgh*. The Appendix, which was read before the Congress of Hygiene and Demography at Budapest, in 1894, is devoted to the author's "new method of illustrating graphically the distribution of disease in, and the climatology of, any area." How far Dr. Felkin's personal experience of Africa has extended, either in space or in time, we are not informed; but he has made industrious use of the works of "numerous authors," to whom he makes general acknowledgment in his preface. We cannot follow Dr. Felkin in his survey of the eight regions into which he

* The late Sir W. Wilde was sometimes wont to deal summarily with well-dressed candidates for gratuitous advice. When a lady in silk rustled in—"Dear Dillon, this will never do! Tell this lady to call at my house between two and four."

divides Africa, their climates and their diseases. His remarks on acclimatisation are good. He emphasises the distinction, often overlooked, between acclimatisation of the individual and acclimatisation of the race. "Wholesale immediate acclimatisation for Europeans in Tropical Africa is entirely out of the question." Under the influence of the new environment a new race will gradually, in the course of generations, be formed. Instances of such acclimatisation as this can be cited from both Americas, from Australasia, from Africa itself.

The results of Dr. Felkin's researches are graphically presented in his appended map; for description and explanation of which we must refer to the paper itself.

The Elements of Pathological Histology, with special reference to Practical Methods. By DR. ANTON WEICHSSELBAUM, Professor of Pathological Anatomy and Director of the Institute of Pathological Anatomy in the University of Vienna. Translated by W. R. DAWSON, M.D. Dubl., Demonstrator of Pathology in the Royal College of Surgeons, Ireland. With Eight Plates, and a large number of Illustrations in the Text, some of which are coloured. London: Longmans, Green & Co. 1895. Pp. 456.

WE are exceedingly pleased to see Dr. Weichselbaum's work translated into English. The author's object in writing it was, as he states in the preface, to provide the tyro in the study of pathological histology with a guide for his work, in which he might find, given concisely and briefly, not only the doctrines of the science, but, also, the most useful and practical methods for its investigation. This object has been admirably carried out.

The work presents clearly facts that are important, while those that are of slight moment, or not yet sufficiently ascertained, are omitted. The reader is not confused by a multitude of methods of staining, &c.—only a few methods of proven utility are given in each case.

The book, as a whole, forms a first-class introduction to pathological histology. It is divided into three parts. The first treats of Methods of Investigation, Histological and Bacteriological. Part II. deals with General Pathological Histology—Degenerations, Tumours, Parasites: vegetable and animal, &c. Part III. contains a description of the morbid

histology of the various tissues and organs of the body, including the eye, the ear, and the skin. The account of the histology of the various forms of disease are concise, but clear, and contain all the more important facts. At the end of each section directions are given as to the best methods of examination of the particular organ or tissue in question.

The book is beautifully printed and excellently illustrated, the figures not being diagrammatic but most carefully drawn from actual specimens. In many, colours are used, micro-organisms being very frequently coloured, by which means their position in the tissues is made clear at a glance. There are seven beautiful plates at the end of the volume—each plate contains two micro-photographs of pathogenic microbes. There is also a coloured plate representing the various forms of cells met with in morbid conditions of the blood, and the plasmodium of malaria.

The translator has done his work excellently. We must congratulate Dr. Dawson on the eminently readable, yet not diffuse, English which he has written.

Infancy and Infant-rearing: An Introductory Manual. By JOHN BENJAMIN HELLIER, M.D. Lond., M.R.C.S. Eng; University Scholar in Obstetric Medicine; Lecturer on Diseases of Women and Children in the Yorkshire College; Examiner in the Victoria University; Surgeon to the Hospital for Women and Children at Leeds; author of "Notes on Gynæcological Nursing." With Illustrations. London: Charles Griffin & Company, 1895.

THIS small octavo volume forms a really useful addition to the valuable series of Standard Medical Handbooks which have been published by Messrs. Griffin & Co. "The subject of this book is the maintenance of health in infancy—not the treatment of disease, but its prevention. The work is intended, in the first place, for the use of those pupil-midwives and other nurses who seek a scientific understanding of their work, so far as it affects the care of infants." The requirements of the medical student and practitioner are also kept well in view, and the author hopes "that these pages may be useful to those who are engaged in the interesting attempt to diffuse, by means of lectures and classes amongst various sections of the community, some sound knowledge

concerning the care of infancy." He looks forward—as we would also fain do—"to the time when instruction in infant and child-rearing will be recognised as a necessary part of the education of every woman.

The text is subdivided into five chapters—I. "Normal Growth and Development in the First Two Years of Life;" II. "On the Difficulties and Problems of Infant-rearing;" III. "On Infant Feeding;" IV. "On the General Hygiene of Infancy;" V. "Short Notes on the Significance of Certain Conditions Observed in Infancy." An Appendix follows, "On the Examination of Breast-milk." In the first of these chapters the author gives a very clear and succinct account of the important points to be attended to in the physique and growth of the infant from the time of birth to the end of the second year. The growth of the teeth and the gradual increase of weight are extremely well given. The "Difficulties" of infant-rearing, in the shape of bad food, bad air, parental neglect, special diseases of infancy and childhood, &c., &c., are well described in the second chapter, and illustrated by valuable tables of statistics. The feeding and general care of infants are very fully treated in the third and fourth chapters. There are 29 wood-cut illustrations, and a very good Index; and, as in the case of Messrs. Griffin's other volumes, the paper, type, and binding are excellent. We cordially recommend this little book to nurses, mothers, and medical men.

A Practical Treatise on Diphtheria and its Successful Treatment.

By BROWNLOW R. MARTIN, M.B., Dubl.; L.R.C.S.I.; formerly Civil Surgeon in H.H. the Nizam's Service. Second Edition. London: Baillière, Tindall & Cox. 1895. Pp. 64.

It might, perhaps, seem unfortunate for Dr. Martin that he published his work on the treatment of diphtheria very shortly before the antitoxin treatment was introduced. Nevertheless, he does not appear to have suffered in consequence; and now we have a second edition just a year after the first was brought out. This second edition contains just twice as many pages as the first did, the theoretical side of the question being more fully dealt with. However, the main point is the same, *i.e.*, the use of sulphite of magnesium, both in the form of powder dusted on the sore throat and also sucked in tabloid form.

This local treatment seems to have proved very successful; we know of no reason why it should not be combined with the subcutaneous use of the antidiphtheritic serum.

Royal University of Ireland. The Calendar for the Year 1895.
Dublin: Alex. Thom & Co. 1895. 8vo. Pp. 422.

THIS "late Annual" reached us on April 17. It is much to be regretted that year after year more than a quarter of the year to which the Calendar relates should slip by before its publication. Surely, more expedition might be practised. It is rather ridiculous to be informed on April 17 that "Forms for admission to the Spring Medical Examinations will be supplied on application after February 11," and that the "Last day for lodging Notices, &c.," for those Examinations was "April 6."

On page 6, under the heading "Eclipses," only those of the sun are given, all of which are partial, while two total eclipses of the moon are altogether left out.

The changes in the Medical Curriculum and Examinations for 1896 will be found on pages 182, 183, and 184. In the examination for the M.D. degree candidates will be examined in Pathology as a separate subject. The subjects of the Examination for the Medical Studentship, to be awarded in October, 1896, will be Pathology and Bacteriology, of which a full syllabus is given.

The Calendar is brought out in the usual excellent style.

Indigestion: An Introduction to the Study of the Diseases of the Stomach. By GEORGE HERSCHELL, M.D. Lond. Second Edition. London: Baillière, Tindall & Cox. 1895.

THIS re-issue of Dr. Herschell's valuable monograph "has been considerably enlarged, and, to a great extent, re-arranged," with the result, as the author hopes, "of enhancing its utility." "In its present form it does not profess to be a complete treatise upon all the disorders of the digestive apparatus, nor to exhaust the subject of diseases of the stomach. Its aim is simply to present to the student, in as concise a form as may be, the minimum amount of knowledge of modern methods with which he can hope to study at all scientifically the chronic disorders of digestion which may come under his observation."

The volume is divided into seven chapters—I. "The Process of Normal Digestion;" II. "Indigestion—What it is, and the Conditions under which it Occurs;" III. "The Interrogation of the Patient;" IV. "The Physical Examination of the Patient;" V. "Ætiology, Symptoms, and Differential Diagnosis of the Chief Diseases of the Stomach;" VI. "Treatment;" VII. "Illustrative Cases for Commentary and Diagnosis." These are followed by a good Bibliography and Index.

In its present form we cordially recommend the book—not merely to the student to whose patronage the author modestly looks forward, but to every medical practitioner—as an excellent manual of reference on the subject of the very various forms of the troublesome condition known as "indigestion." The chapters on the "Interrogation of the Patient" and "Physical Examination of the Patient," respectively, contain more concentrated and judiciously arranged information than we can remember having previously seen collected in any single volume.

Clinical Lectures on the Prevention of Consumption. Delivered at the Westminster Hospital. By WILLIAM MURRELL, M.D., F.R.C.P. London: Baillière, Tindall & Cox. 1895.

THE Preface informs us that "These lectures were delivered at the Westminster Hospital in November last, and were subsequently published in the *Medical Press*. They are now reproduced in book form, in the hope that they will fulfil a useful function and obtain wider publicity." We are very pleased that the author has decided on giving the results of his valuable observation and experience to the world in this shape. The booklet before us contains, within a small space, an immense amount of concentrated information, and should be perused by every practising member of the medical profession. The enormous importance of the subject can, indeed, be hardly overrated. "A disease is serious, not only from the number of people it kills, but from its power of curtailing the usefulness of those who are living, either in their earning capacity or in their capacity for enjoying life." The applicability of this observation to the "disqualifying power of consumption" is too obvious to require comment. The author has "no doubt that, under certain circumstances, consumption is a communicable disease." Among the "exceptional sources of contagion" is mentioned "the fact that, according to recent reports, Dr. John M.

Byron, the well-known bacteriologist of New York, and Director of the Bacteriological Department of the Loomis Laboratory, has contracted pulmonary tuberculosis whilst pursuing a course of investigation on Koch's bacillus." The various predisposing causes of phthisis are judiciously examined—Overcrowding, impure air, exclusion of sunlight, unhealthy occupation, confinement, monotony, &c., &c. The author appears to give full value to "hereditary influence," but does not omit the curious fact that a medical writer has been found to maintain "that there is no hereditary predisposition to phthisis as such, and that what is transmitted is a certain frailty of tissue, a vulnerable condition of health, a certain defective power of resistance to morbid influences which leaves the victim an easy prey not only to this particular disease, but to many other diseases." He speaks hopefully of the curability of consumption, considers "legislative interference" highly desirable, and closes with a number of eminently practical suggestions for the carrying out of the influence of the sanitary authorities.

The Galenical Preparations of the British Pharmacopœia. By C. O. HAWTHORNE, M.B. London: J. & A. Churchill. 1895.

THIS small volume is essentially an expanded syllabus of a short course of lectures, with practical demonstrations, which the author has for some years delivered in the Glasgow School of Medicine.

It is suitable for a class in practical pharmacy and gives a useful epitome, with the needful explanations, of the various Galenical groups of preparations in the British Pharmacopœia.

Modern Materia Medica for Medical Men, Pharmacists, and Students.

By H. HELBIG, F.C.S. Fourth enlarged edition. New York: Lehn and Fink. London: H. K. Lewis. 1895.

THIS is an excellent and useful work, which we can heartily recommend to any of our readers who wish to post themselves with information up to date regarding the newer drugs.

It runs much on the same lines as Fischer's book, "Die neueren Arzneimittel," and is carefully worked up.

Part I. gives, in alphabetical order, a clear account of all the important synthetical compounds recently introduced into practice, and embodies much useful information as to the innumerable articles which bewilder the literature of therapeutics.

A lengthy appendix furnishes short notices of the less important drugs and preparations, and a good index supplies a means of ready reference.

Some very useful tables have been drawn up. Thus we have a table of average doses of new remedies; a table of solubility in water and spirit; a table of melting and boiling points; an admirable and concise table for the detection of new remedies in urine (after Braeutigam); and a serviceable list of commercial names of new remedies.

Mr. Helbing's volume will prove a most useful companion to every prescriber.

INFLUENZA.

APPENDED to his weekly return on the health of Manchester will be found the following excellent circular drawn up by Mr. James Niven, the Medical Officer of Health for that great manufacturing centre:—

“City of Manchester. Precautions against Influenza.

“1. Influenza prevails extensively in Manchester at present. It is a very fatal disease, being frequently followed by inflammation of the lungs. If neglected, it is often followed by prolonged weakness and depression. The disease is generally marked by its sudden onset, and by severe headache, with pains in the back and limbs, and fever. Introduced into a house by one member of the family, it is apt to assail the rest of the household.

“2. During the prevalence of Influenza, workpeople are advised to wear warm clothing and to avoid unnecessary exposure.

“3. Persons attacked by Influenza should be separated from the rest of the household, when possible.

“4. The sick room should be cleaned and ventilated.

“5. During the epidemic, special attention to cleanliness and ventilation should be shown in factories and workshops.

“6. Those attacked should on no account join assemblages of people for some time, as they are likely to convey the disease to others.

“7. It is of the greatest importance to those assailed by Influenza that they should take rest and obtain medical advice. Work should not be resumed, even in mild cases, for at least a week after the abatement of symptoms, and great care should be taken to avoid cold and fatigue.

“JAMES NIVEN,

“*Medical Officer of Health.*

“March 8th, 1895.”

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.

General Secretary—WILLIAM THOMSON, F.R.C.S.I.

SECTION OF OBSTETRICS.

President—R. D. PUREFOY, F.R.C.S.I.

Sectional Secretary—F. W. KIDD, M.D.

Friday, December 21, 1894.

The PRESIDENT in the Chair.

Spina Bifida.

DR. W. J. THOMPSON exhibited a living specimen of Spina Bifida with the following history.

Patient three months old. Spina bifida at birth as large as an orange, flaccid, translucent, and covered over with a thin bluish membrane. There was complete paralysis of lower extremities, but not of rectum or bladder. The laminæ were wanting, and the bony ring around could be distinctly traced. The legs were everted from hip-joint, and the left foot presented a well-marked specimen of talipes calcaneus. Case is either a meningo-myelocoele or syringo-myelocoele—probably the former. For about one month there was no change in condition, and at end of that time tumour got smaller, more tense, and skin healthier; the legs also regained power, and eversion became less marked. Two weeks after improvement in legs hydrocephalus commenced and has gradually increased, the circumference of head measuring now 20 inches. The bones are widely separated, the fontanelles greatly enlarged, and the sutures can be easily traced. There is distinct fluctuation, and the veins are enormously enlarged. Whether the fluid is situated in ventricles or sub-arachnoid space could only be definitely decided by *post-mortem* examination.

From the statistics of the Clinical Society of London it would appear that spina bifida occurs once in 1,000 births, and it is associated with hydrocephalus once in 10,000 births.

The family history is good. Father and mother both strong and healthy. This is their third child. The first, born in July, 1892, was taken to the Meath Hospital when two days old. Sir William Stokes has kindly allowed me to show these two photographs of it [exhibited], from which an enormous tumour is seen on left side of forehead, and states that the tumour was an enormous *nævus*, the largest he had ever seen.

The treatment consisted simply of firm pressure with simple antiseptic dressing. It is generally recommended to do this for two or three months before any operative treatment should be thought of, and it very often succeeds.

The points of interest are:—1st. Situation of spina bifida in dorso-lumbar region. 2nd. Paralysis of lower extremities only with eversion. 3rd. Coincident development of the hydrocephalus. 4th. The enormous *nævus* on a former child of the same family.

DR. ALFRED SMITH said that he had seen the child when it was only a month old, and that he thought that it could only live a week or two.

MR. CROLY remarked that the child had a very rare form of talipes—namely, talipes calcaneus, which he said was often associated with spina bifida.

DR. MACAN thought it a very interesting case of spina bifida, going through almost a natural cure, and questioned whether the tension had been taken off the sac by the giving way of the cranium. It would be interesting to see if anything could be done to remove the hydrocephalus by tapping, pressure, or in any other way.

DR. PUREFOX noticed that some moisture was coming through the skin over the spina bifida.

DR. THOMPSON said that this was the only day in which that had occurred.

Ovarian Tumours.

DR. ALFRED SMITH showed two ovarian tumours—(1) a large papillomatous cyst, removed from patient, aged fifty-two; recovery good; (2) a small ovarian tumour removed from a patient, aged thirty-two. The patient was ailing for the past twelve months, complained of great pelvic pain, and of severe pain down right leg, which caused the patient to walk very lame. There were many attacks of hysterical convulsions, the seizure occurring chiefly when the patient was alone. On examination under ether, tumour size of foetal head was jammed in the pelvis; it could not be shoved out, being hitched under the promontory of sacrum. Operation easy; recovery uneventful. Patient can now walk about the ward without showing any evidence of lameness. And there

has not been any recurrence of the convulsions. The operation was performed on November 28th.

DR. MACAN, referring to the second specimen, thought that the small ovarian tumour would hardly be sufficient to cause hysterical convulsions, and that it would not agree with the present hypnotic theory of the cause of hysteria.

DR. SMYLY, on the other hand, thought that the ovarian tumour would be a sufficient cause. He himself had seen a case of hysterical convulsions which had been cured by removing the patient from home, putting her to bed, and massaging her.

DR. PUREFOY thought it a matter of surprise that hysteria was so seldom connected with the growth of these tumours, if hysteria is connected with uterine and ovarian disease. In this case he believed that the tumour and convulsions were cause and effect.

DR. SMITH, replying, said that he was inclined to agree with Dr. Smyly that the removal of the tumour had something to do with the cessation of the convulsions. The case had been well up to 12 months previously, and since then had been suffering from various hysterical symptoms—as loss of voice.

Glandular Proliferous Cyst of the Right Ovary.

DR. J. H. GLENN exhibited glandular proliferous cyst of the right ovary.

M. A. F., aged twenty-eight, admitted 24th June, 1894, married three and a half years, sterile. History—Pain in left side for seven years. Noticed abdomen getting larger five years ago, and particularly observed the left side increasing three years ago, since when she thinks it has not increased in size. Menstruation—Every three weeks, lasting three days, with pain. Losing flesh for the past twelve months. Physical signs—Uterus retro- and sinistro-verted, sound passes 3 in. abdominal tumour to within 1 in. of the ensiform cartilage, fluctuating dulness in left, clear in right flank. Diagnosis—Ovarian cyst of right ovary. Operation—10th July, 1894. Cyst punctured, omentum adherent; this was ligatured, and divided cyst drawn out; small secondary cyst found on wall. Pedicle was thick; tube was ligatured separately; pedicle ligatured and divided; peritoneum stitched over; left ovary normal. Silk-worm gut used for the parietes close together and from within out. Discharged 14th August, 1894.

Uterus removed by Vaginal Hysterectomy for Carcinoma Uteri.

M. S., aged fifty-five, admitted 26th July, 1894; three children; one abortion; menopause six years ago; last pregnant, fourteen years ago. History—Complaining for the last three months of pain in the lumbar region, with a foul discharge from the vagina; suffers from chronic

bronchitis. Physical signs—Fungating cancer of cervix; uterus retroverted. Per rectum round and broad ligaments seem free. Preparation—Creolin vaginal douches, thorough scrubbing and soaking with peroxide of hydrogen, iodoform tamponnade. Operation—27th July, 1894. Owing to the extreme friability of the cervix, considerable difficulty was experienced in drawing down the uterus. I split the uterus along the anterior aspect in order to get a grip of firm tissue for the Museux's forceps. The broad ligaments were clamped, Landau's short forceps being used; some delay was caused by smart hæmorrhage from the left broad ligament, a small portion of which escaped the clamp. Iodoform gauze was wrapped around the forceps and the vagina packed. Clamps removed thirty-six hours after. Discharged August 27th, 1894.

Two Uteri removed by Vaginal Hysterectomy.

DR. F. W. KIDD exhibited two uteri removed by vaginal hysterectomy.

CASE I.—E. M., aged fifty-eight, admitted 27th August, 1894; healthy-looking woman; menses ceased 15 years previously; had 5 children and one miscarriage. For more than 12 months had a sanious discharge from the uterus—sometimes watery; no fœtor; occasional frequency of micturition. On 24th August, 1894, had pain in the abdomen, which went round to the back.

On examination, cervix low down, hard and nodular; infiltrated tissue extends from it along vaginal wall on right side for nearly an inch; it bleeds easily. Diagnosis, carcinomatous disease. On September 4th, diseased portion of cervix curetted away, a considerable portion was removed, and seemingly some pus came away; cavity in cervix plugged with iodoform gauze. Dressed with iodoform gauze until the 9th inst., when pledgets of lint soaked in saturated solution of chloride of zinc were introduced into crater-like cavity in cervix, and vagina was plugged with tampons of cotton-wool soaked in solution of bicarbonate of soda. Tampons removed on night of the 10th inst. On night of the 11th inst. one plug of chloride of zinc lint came away. On the night of the 12th the other pledgets were removed and vagina douched. Discharge was slightly fœtid; temperature never rose above 98·4°. On 20th inst. examined the remaining vaginal portion, and found it much healthier. On 21st inst. three more pledgets of lint, with saturated solution of chloride of zinc, introduced into cervix, and vagina plugged as before. Pledgets removed in three days; parts much improved; patient went out on 2nd October, was re-admitted on 5th November; condition so much improved that it was determined to try and remove all diseased tissues by vaginal hysterectomy. Operation on 8th November. The ordinary incisions were made in the anterior and posterior attachments of cervix to vaginal walls, and the bladder and rectum were separated from

their attachments by the finger. Clamps were used to secure the broad ligaments, vessels, &c. Patient suffered from some collapse after operation, but rallied after appropriate treatment. During convalescence only once did temperature touch 100° F.; that was on the evening of operation. After removal of the womb endeavours were made to remove small infiltrated extension on vaginal wall, but on account of profuse hæmorrhage this was only partially successful. Clamps were removed early on morning of 10th, patient allowed up on the 28th, and left hospital on the 4th December. When examined before leaving there was no trace of the infiltration on the vaginal wall to be felt, no discharge whatever, and wound nicely healed. The points of interest are:—1. Hysterectomy after the palliative treatment by chloride of zinc had been tried. 2. That portion of infiltrated vaginal wall left behind showed no sign of infiltration four weeks after operation. 3. Difficulty of drawing down uterus with vulsellum forceps on account of previous destruction of major portion of cervix. 4. There were three small intramural fibroid growths at fundus of uterus.

CASE II., Nov. 2nd.—M. S., aged fifty-three, a stout woman; 9 children; menses ceased five years ago; history of some operation for torn womb having been performed six years previously—possibly trachelorrhaphy. Has had brownish discharge at intervals for last eighteen months, which has become much more frequent for last six months. On examination cervix of stony hardness; slight thickening to right of uterus; does not seem continuous with cervical tissue; sanious discharge, no smell. Diagnosis, commencing carcinoma of cervix. 10th November, operation. Went out well on 3rd December. Temperature never touched 100°. There was a great deal of pain the evening of the operation, relieved by a morphia suppository. Pressure of the clamps while they were in caused some ulceration on either side of labia minora, although iodoform gauze plugging was used. This healed up slowly. Patient was a very stout woman. Result excellent on leaving hospital.

Case of Ovariectomy, 2nd August.—K. B., aged twenty-six; married three years; no children; soreness and tenderness across abdomen; left leg aches so that she can hardly stand on it. Menses irregular, occurring every three weeks, lasting four days. Micturition frequent. Fluctuating tumour in lower part of abdomen, extending to umbilicus, more prominent on left side; smooth, homogeneous, uterus placed behind tumour. Operated 15th August; simple unilocular cyst; all sutures removed on 9th day wound completely healed. Temperature never went higher than 99.4°. The dressings applied at time of operation were not removed until the stitches were removed, and then came off the wound perfectly dry, union being complete.

Clinical Report of the Rotunda Lying-in Hospital for Year 1892-1893.

By W. J. SMYLY, M.D., Master; J. H. GLENN, M.B., and
E. H. TWEEDY, L.R.C.S.I., Assistants.

This Report will be found at page 6.

DR. MACAN congratulated Dr. Smyly on result of the Report. There were very few cases of septicæmia, and most of them were brought from the outside. He was very glad to see that "auto-infection" had not been called in to lessen the deaths from septicæmia. The chief point of interest was, he thought, with regard to symphysiotomy. He considered that it was a very difficult operation, requiring three assistants, and that it also required very skilled after-treatment. He thought that the consensus of opinion at the meeting at Rome was that it was a very difficult operation, and that it was unsuited for ordinary practice. In some cases he had read of, the symphysis could not be found, in others when found it could not be opened. It would be very difficult to measure the pelvis with sufficient accuracy, so as to be sure that you were between 6·7 and 8·1 c.m. He would like to know from Dr. Smyly the exact indications for symphysiotomy. With regard to the question of convulsions he was still in favour of the old treatment by chloroform and chloral. He thought there was a great deal of difficulty in carrying out the morphia treatment, especially as many practitioners were averse to giving morphia to cases suffering from albuminuria. He considered accidental hæmorrhage one of the worst accidents in midwifery, but thought that as long as the membranes were intact there was no case in which plugging would not stop the hæmorrhage. He thought that the last-mentioned case of *post-partum* hæmorrhage could have been plugged with advantage.

DR. ATTHILL said that he thought some of the cases of "face to pubes" must have been overlooked, as very few were mentioned. He said that the question of plugging or not for accidental hæmorrhage was a very old one. It used to be laid down that it was absolutely wrong to plug in accidental hæmorrhage, but he had discovered that many cases of supposed placenta prævia which were plugged did very well, but turned out not to be cases of placenta prævia. He thought that if there were good "pains" plugging was perfectly safe, but did not like it if there were no pains. He doubted if it were wise to douche (creoline douche 110° F.) in cases of accidental hæmorrhage. If hot water was applied rapidly it caused contraction, but if long continued it caused relaxation. He thought that perchloride of iron had saved several other cases in which nothing else would have. He agreed with Dr. Smyly in condemning the indiscriminate use of the forceps, and with Dr. Macan in dreading symphysiotomy. He had seen several cases in which the symphysis had separated without operation, and in which the woman was invalided for

the rest of her life, and so he thought the cases operated on would not be such good recoveries as seemed at the time. He would prefer an operation of some kind of abdominal section instead. He preferred the chloroform and chloral treatment of convulsions. He also thought that taking 10 or 15 ounces of blood pretty rapidly from a vein was very good, but that it was not applicable in all cases. He had done it on several cases with benefit.

DR. ALFRED SMITH entirely agreed with Dr. Smyly in thinking that morbidity is the real test of antiseptics employed. The removal of adherent placenta was considered one of the most dangerous operations in midwifery, but in the Report he found that 19 had been removed and that there was no record of death. In the treatment of cases of deformed pelvis, he thought that the proper course was to rely more on the powers of nature to mould the foetal head to the brim. He thought that symphysiotomy should not encroach upon forceps or turning. With regard to eclampsia, he said that since the cause was not clear there was no satisfactory method of treatment. Nearly all the methods were good, but were suitable in different classes—morphia in one class, chloroform in another.

DR. GLENN compared the statistics of morbidity within the last 4 years, and showed how greatly it had fallen off—first year, 185; second year, 117; third year, 94; fourth year, 60. With regard to symphysiotomy he said that Winckel had given the following statistics in contracted pelvis:—For children, mortality in forceps, 15 per cent.; in version, 51·3 per cent.; for mothers, in forceps, 4 per cent.; in version, 3 per cent. Leopold, in his last Report, states that the results of the induction of labour are unsatisfactory. Only 33 per cent. of the children are kept alive. If symphysiotomy was going to remain it must take the place, in some cases, of prophylactic version and high forceps. He remarked that it was not the size but the hardness of the head which caused trouble. With regard to the difficulty of finding the joint at the symphysis, out of 60 pelvis examined by Luschka, there were only 8 in which the joint was in the middle line, 40 were to the left of it, and therefore one should always look for it more to the left. He had found difficulty in preventing the bones springing apart too far when he had opened the joint. There is a gain in the sagittal direction of 1·2 c.m. due not only to the separation of the symphysis, but also to the descent of the pubic bones 2 c.m. He thought that the operation should be done in the left lateral position, as there would be greater power over the patient to prevent the bones springing too far apart. If possible it should then be left to nature. He thought symphysiotomy had a future before it.

DR. PARSONS said that the more he thought of the treatment of eclampsia by chloroform the less he liked it. That the convulsions can be stopped by it is perfectly certain, but he did not know whether it was

a good thing to stop the convulsions. In experimenting on animals you must not give too much chloroform if you want to stimulate the cortex. So the convulsions are stopped by the chloroform reducing the excitability of the cortex. Therefore the convulsions are only stopped by introducing a more powerful poison than the one being contended with. The same remark applies to morphia. Chloroform is more dangerous than chloral, as it is a greater cardiac depressant. The treatment he would prefer most would be free purgation, because some toxic substance is present in the system which is not being excreted by the kidneys in sufficient quantity.

DR. CROLY thought that in convulsions nothing was so good as cold effusions to the head continued for a considerable time. They had the advantage of not depressing the patient.

DR. PUREFOY looked rather unfavourably upon plugging in accidental hæmorrhage. He had seen no bad results follow the use of perchloride of iron. With regard to puerperal convulsions, Brown-Séquard had shown that the inhalation of chloroform may be continued for a much longer time if preceded by a hypodermic injection of morphia, so he would give one dose of morphia and continue the use of chloroform. He agreed with Dr. Atthill in thinking that bleeding was of use in some cases.

DR. SMYLY, replying, said that unfortunately a death had occurred from P.P.H. It was because he did not expect a bad result that it occurred. If he had supposed she was going to die he would have plugged with iodoform gauze or injected perchloride of iron. The hæmorrhage occurred in consequence of a submucous myoma. There was no P.P.H. at the time, but only two or three hours after delivery. The uterus was left well contracted, but violent hæmorrhage came on again. He had not time to give his views on accidental hæmorrhage, but said they would be found in the coming number of the *British Medical Journal*. With regard to convulsions he thought that the tendency to death was due to failure of the heart and œdema of the lungs, both of which were increased by chloroform. Morphia gave better results. He now came to the chief point in the report, namely—the treatment of deformed pelvis. Symphysiotomy was only a very small part of the treatment. A great many men recognised pelvic deformity only by the failure of the child's head to enter the brim. They then had recourse to the forceps, with the most disastrous results. He considered pelvic deformity a contra-indication to the use of the forceps, and would not use them unless there was a strong indication for them. He would now give an epitome of the treatment of pelvic deformity. Suppose you meet with a case of pelvic deformity in pregnancy, the first thing to decide is whether you will induce premature labour. In suitable cases he would prefer induction to symphysiotomy. If the latter improved he might adopt it for the sake of the child, but in the present state he would not.

When given a woman in the commencement of labour, he would divide them into those cases in which he could not possibly get a living child *per vias naturales*, and those in which he might. In the first case under 6 c.m. is an absolute indication for Cæsarean section. Between 6 and 7 c.m. you have the choice between Cæsarean section, symphysiotomy, and perforation. At present he would prefer Cæsarean section. Taking new those cases above the point in which one might hope for a living child. He prefers the expectant method to prophylactic version, because the latter must be done at the commencement of labour. If you perform prophylactic version, you put symphysiotomy out of the field because the child would be dead if it failed to come through. Symphysiotomy is the end of the rôle that begins by waiting. If the head does not mould you must then try the forceps, or failing them, you have the choice between symphysiotomy and perforation. He shrinks from perforation on moral grounds. It would be too late to perform version. He admits Dr-Macan's objection to symphysiotomy. The number of assistants required prevents its being used in general practice.

The Section then adjourned.

SECTION OF STATE MEDICINE.

President—D. EDGAR FLINN, F.R.C.S.

Sectional Secretary—NINIAN FALKNER, M.B.

Friday, April 19, 1895.

T. W. GRIMSHAW, M.D., in the Chair.

Defective Infantile Life Unrecognised by State Medicine.

MR. WALTER BERNARD, F.R.C.P.I., Londonderry, read a paper on this subject. [It will be found at page 382.]

DR. J. W. MOORE said that the Academy owed a debt of gratitude to Dr. Bernard for coming so far. Within the last decade or two there was a wonderful change regarding the value put on the life of children. The death-rate among young children has been steadily falling. In the great cities there were many philanthropic associations whose sole object was the improvement of childhood, as Dr. Barnardo's in London, which produced splendid specimens of boyhood.

SIR W. STOKES said he would refer to one thing mentioned in the excellent rules shown by Dr. Bernard. It was the importance of educating people, and this more particularly in Ireland, to a better knowledge of how to cook their food. He believed that one of the main causes amongst the poorer class of having recourse to the public-house

was the want of properly cooked food in their homes. A great many physical and mental troubles were due to intemperance.

DR. NINIAN FALKNER said there were two defects possible in infantile life, one physical, the other mental. Referring to the mental impressions received during childhood, he considered that a great many of the unfortunate careers of men and women were due to immoral suggestions made to them in their infancy by nurses.

DR. RAINSFORD said he had had three years' experience in a very large lunatic asylum, and thought that the early training received in childhood had a great effect on the after-life of the individual. Considering the manner in which the children are brought up in large cities he said it was a marvel that there were not more criminals than there are.

The CHAIRMAN said that there was not nearly enough done in the training of medical men on how to bring up children. If the children are not looked after, a great deal of damage is done both to them and their children, if they ever have any. There was no doubt that babies could be educated from their cradle. With regard to the question of nurses, referred to by Dr. Falkner, he thought great damage, both physical and mental, was done by them. The practice of lying was learned in the nursery. These evils were produced by the mothers paying others to do what they should do themselves. In almost every instance in which the Society for the Prevention of Cruelty to Children, of which Dr. Rainsford was the medical officer, proposed to start a branch in any town, they were met with the reply that they knew how to take care of their children. The clergymen were especially strong in this opinion. The introduction of the School Board system into England has had the effect of catching a great number of street Arabs. There were two institutions in Dublin, one Protestant and the other Roman Catholic. The Reports of these institutions were of the most encouraging kind. With reference to cookery, he was told a story by a parish priest. He went to a house about dinner hour and asked when the man would be in, and was told presently. He asked the wife where the man's dinner was. She replied in the press, where there was cold meat and potatoes. On further questioning, she said it was cooked two or three days. This was the way in which the husband was treated when he came home. Dr. Barnardo had done more than any single man to improve the social condition both of children and grown up people in Derry. The number of uncertified deaths in Dublin was appalling. It meant either that a medical man was not called in at all, or that he was called in so late that he was not able to give a certificate of the cause of death.

DR. BERNARD, replying, said the Jubilee nurses had cleared the way for ladies to visit the poor people, and teach them cooking, thrift, and cleanliness. If rules were formulated by the State, insanity would be

diminished. The lower classes carry out the rules as well as the upper classes.

Private Hospitals, or Home Hospitals.

DR J. W. MOORE read a paper on this subject. [It will be found at page 388.]

DR. FALKINER thanked Dr. Moore for reading his paper, which he had written on very short notice.

DR. MONTGOMERY said it would be very desirable if some mode could be found of giving publicity to the paper.

SIR W. STOKES regretted that he could not agree with a great deal of what Dr. Moore had said. He had had experience of no less than five of these hospitals, and while admitting the importance of having the best hygienic surroundings possible, he did not think that these institutions deserved the very severe strictures made upon them. If they were so bad they would long since have ceased to exist. He had had many important surgical operations in them and never heard any complaints. Many of the largest institutions in London, as St. Bartholomew's and University College Hospital, were situated in densely-populated parts. He did not think inspection did any good, and it would take away the privacy of the hospitals.

DR. PARSONS said they had to make the best of what they had. The patients had far more quietness in these hospitals than in their own homes. He did not think that they should be inspected. If they were not properly kept, doctors would not send their patients to them. These hospitals were very useful for treating patients who were too well off to be treated in an ordinary hospital.

DR. SAVAGE had had some medical cases in a private hospital, and was very much displeased with the treatment they received. There was nothing to be gained by sending medical patients to these home hospitals. He thought Dr. Moore would have spoken more of home hospitals for infectious diseases. During epidemics—as of scarlatina or small-pox—they should charge a reasonable fee for these rooms, and have whatever doctor the patient wished to attend them.

DR. THOMPSON said it would be difficult and expensive to get detached buildings. In some of these hospitals the attendance and nursing was very good, and everything was ready on the spot.

DR. J. W. MOORE, replying, said he granted that these hospitals were a necessity. He wanted them put on a sound financial and sanitary basis. He was speaking to a gentleman a short time ago who was a partner in one of them and he said it did not pay. In London there were no tramcars and there was wooden instead of stone pavement. Quite close to Fitzwilliam-square there were stables let out to car drivers who did not keep them very clean. The vast majority of the cases treated in private hospitals

came from the country and were accustomed to fresh air. He said that very soon the sanitary authorities would have to take the matter in their own hands. He could produce positive evidence that these hospitals are a growing scandal.

DR. BERNARD said that there was a strong feeling in the north-west of Ireland that there were too many private hospitals in Dublin. Some of his own patients complained of the noise and insufficient nursing in them.

The Section then adjourned.

HOMICIDAL INSANITY.

THE *Medical Record* quotes the following from Burdraghi :—"The great majority of homicides by the insane are committed under the influence of persecutory delusions. Eighteen per cent. were associated with epilepsy, and one was anthropophagous. In fifty-eight per cent. the murdered persons were relatives, and in forty-two per cent. strangers. The youngest homicide was only four years of age, a girl who threw into the fire an infant she was left to mind; the oldest was seventy years of age; the majority, thirty, between thirty and forty years. Seventy-five were men, and twenty-five women; seventeen were quite illiterate, and sixty-one very imperfectly educated. Religious delusions were present in twelve, and in five of these were the immediate motive of the crime; twenty-five laboured under hallucinations, and fourteen had been previously insane. Fifteen were instances of plural homicides, one individual having perpetrated no fewer than eleven. In nineteen no motive could be assigned. That even excessive joy may subvert the reason is proved by the case of a man who, having unexpectedly come in for a fortune of 10,000,000 dols. killed his wife and children. In fourteen per cent., a surprisingly small proportion, was the act premeditated, and, as in fifteen per cent. of the whole, considerable ingenuity was shown in its execution. Twenty-seven sought concealment in flight, but all sooner or later returned. Three only attempted to prove an alibi. Twenty-three prevaricated, but of these twelve had lost all recollection of their acts, sixty-seven remembered them, but in fourteen cases they were committed under the influence of hallucinations; fourteen others, though cognisant of what they had done, were of very weak intellect, and one was a case of transitory frenzy. Fifty-four exhibited more or less remorse, but of these forty-six failed to realise the heinousness of their crimes; seven gloried in them; twenty-three attempted to exculpate themselves; thirteen, undoubtedly of weak intellect, simulated insanity; eleven of these were subsequently transferred from the asylum to the jail; and six in all succeeded in escaping from asylums.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.; F.R.C.P.I.;
F. R. Met. Soc.; Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS

For four Weeks ending Saturday, March 23, 1895.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns	Weeks ending				Towns	Weeks ending			
	March 2.	March 9.	March 16.	March 23.		March 2.	March 9.	March 16.	March 23.
Armagh -	28.0	56.1	42.1	49.1	Limerick -	42.1	51.9	39.8	25.3
Belfast -	29.6	28.8	25.8	34.2	Lisburn -	21.8	25.7	17.0	17.0
Cork -	42.2	30.5	31.1	33.9	Londonderry	28.3	20.4	17.3	23.6
Drogheda	8.8	22.0	22.0	35.1	Lurgan -	128.2	73.0	18.2	50.2
Dublin -	31.8	47.6	41.9	44.3	Newry -	40.2	12.1	40.2	24.1
Dundalk -	16.8	20.9	25.1	20.9	Sligo -	45.7	15.2	20.8	26.4
Galway -	34.0	22.7	18.9	26.4	Waterford -	32.5	22.5	35.0	30.0
Kilkenny	37.8	33.0	14.2	37.8	Wexford -	49.7	58.7	13.5	18.1

In the week ending Saturday, March 2, 1895, the mortality in thirty-three large English towns, including London (in which the rate was 38.5), was equal to an average annual death-rate of 32.9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 42.8 per 1,000. In Glasgow the rate was 53.6, and in Edinburgh it was 37.3.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 33.4 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2.2 per 1,000, the rates varying from 0.0 in nine of the districts to 59.3 in Lurgan—the 27 deaths from all causes registered in that district comprising 7 from measles, 1 from typhus, and 5 from whooping-cough. Among the 155 deaths from all

causes registered in Belfast are 3 from measles, 2 from scarlatina, 2 from whooping-cough, 1 from diphtheria, 2 from enteric fever, and 1 from diarrhoea. The 61 deaths in Cork comprise 4 from whooping-cough. The 30 deaths in Limerick comprise 2 from scarlatina and 1 from diphtheria. The Assistant Registrar for Sligo No. 1 District remarks—“No deaths from, or fresh cases of, small-pox—one fresh case was reported from Carney District and brought into Sligo Fever Hospital.”

In the Dublin Registration District the registered births amounted to 219—117 boys and 102 girls; and the registered deaths to 219—90 males and 129 females.

The deaths, which are 17 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 32·7 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 31·8 per 1,000. During the first nine weeks of the current year the death-rate averaged 33·0, and was equal to the mean rate in the corresponding period of the ten years, 1885-1894.

Only 14 deaths from zymotic diseases were registered, being 8 below the average for the corresponding week of the last ten years, and 4 under the number for the previous week. They comprise 4 from small-pox, 4 from influenza and its complications, 1 from whooping-cough, 1 from enteric fever, and 1 from erysipelas. All of the 4 persons who died from small-pox were unvaccinated; their respective ages were 7, 18, 25, and 37 years.

The number of cases of small-pox admitted to hospital was 31, being a decrease of 6 as compared with the admissions for the preceding week, and 25 under the number for the week ended February 16: 52 small-pox patients were discharged during the week, 4 died, and 110 remained under treatment on Saturday last, being 25 under the number in hospital at the close of the preceding week. This number is exclusive of 125 convalescents in the South Dublin Union Small-pox Hospital, Kilmainham.

The number of cases of enteric fever admitted to hospital during the week was 5, being 1 under the admissions in the preceding week: 7 enteric fever patients were discharged, and 34 remained under treatment on Saturday, being 2 under the number in hospital on that day week.

The hospital admissions included, also, 3 cases of scarlatina, being 5 below the number of cases of that disease admitted during the preceding week: 35 cases of the disease remained under treatment on Saturday, being 10 under the number in hospital on the preceding Saturday.

Seventy-five deaths from diseases of the respiratory system were registered, being 28 above the average for the corresponding week of the last ten years, but 7 under the number for the previous week. They comprise 56 from bronchitis, 11 from pneumonia or inflammation of the lungs, 1 from croup, and 1 from pleurisy.

In the week ending Saturday, March 9, the mortality in thirty-three large English towns, including London (in which the rate was 41·2), was equal to an average annual death-rate of 35·0 per 1,000 persons living. The average rate for eight principal towns of Scotland was 40·9 per 1,000. In Glasgow the rate was 43·9, and in Edinburgh it was 44·5.

The average annual death-rate in the sixteen principal town districts of Ireland was 37·2 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·0 per 1,000, the rates varying from 0·0 in nine of the districts to 9·1 in Lurgan—the 16 deaths from all causes registered in that district comprising 1 from measles and 1 from whooping-cough. Among the 151 deaths from all causes registered in Belfast are 2 from measles, 1 from scarlatina, 2 from whooping-cough, 1 from simple continued fever, and 1 from diarrhoea. The 44 deaths in Cork comprise 4 from whooping-cough, and the 13 deaths in Londonderry comprise 1 from scarlatina and 1 from whooping-cough. The Registrar for Dundalk District remarks—“Influenza largely prevails;” and the Assistant Registrar for Sligo No. 1 District reports that “measles prevails.”

In the Dublin Registration District the registered births amounted to 164—81 boys and 83 girls; and the registered deaths to 327—150 males and 177 females.

The deaths, which are 109 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 48·8 in every 1,000 of the population. Omitting the deaths (numbering 8) of persons admitted into public institutions from localities outside the district, the rate was 47·6 per 1,000. During the first ten weeks of the current year the death-rate averaged 34·6, and was 1·7 above the mean rate in the corresponding period of the ten years, 1885–1894.

Thirty-one deaths from zymotic diseases were registered, being 8 over the average for the corresponding week of the last ten years, and 17 over the low number for the previous week. They comprise 5 from small-pox, 8 from influenza and its complications, 3 from whooping-cough, 6 from enteric fever, 1 from diarrhoea, 2 from dysentery, and 1 from erysipelas. Of the 5 persons who died from small-pox 2 (aged respectively 20 and 38 years) had been vaccinated and 3 (aged respectively 22 days, 36 years, and 83 years) were unvaccinated.

Thirty-four cases of small-pox were admitted to hospital, being an increase of 3 as compared with the admissions in the preceding week, but 3 under the number admitted in the week ended February 23: 47 small-pox patients were discharged, 4 died, and 93 remained under treatment on Saturday, being 17 under the number in hospital at the close of the preceding week. This number is exclusive of 183 convalescent patients in the South Dublin Union Small-pox Hospital, Kilmainham.

Six cases of enteric fever were admitted to hospital, against 5 admissions

in the preceding week: 8 enteric fever patients were discharged, 1 died, and 31 remained under treatment on Saturday, being 3 under the number in hospital on Saturday, March 2.

The hospital admissions for the week included, also, 10 cases of scarlatina, being 7 over the number of cases of that disease admitted during the preceding week: 31 cases of the disease remained under treatment on Saturday, being 4 under the number in hospital on the preceding Saturday.

Deaths from diseases of the respiratory system, which had fallen from 82 in the week ended February 23 to 75 in the following week, rose to 99, or 46 over the average for the corresponding week of the last ten years. They comprise 67 from bronchitis and 25 from pneumonia or inflammation of the lungs.

In the week ending Saturday, March 16, the mortality in thirty-three large English towns, including London (in which the rate was 38·4), was equal to an average annual death-rate of 32·2 per 1,000 persons living. The average rate for eight principal towns of Scotland was 35·1 per 1,000. In Glasgow the rate was 35·9, and in Edinburgh it was 45·8.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 32·5 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·2 per 1,000, the rates varying from 0·0 in eleven of the districts to 13·7 in Lurgan—the 4 deaths from all causes registered in that district comprising 1 from small-pox, 1 from measles, and 1 from whooping-cough. Among the 135 deaths from all causes registered in Belfast are 4 from scarlatina, 1 from typhus, 5 from whooping-cough, 1 from diphtheria, 4 from enteric fever, and 2 from diarrhoea. Among the 45 deaths in Cork are 5 from whooping-cough. The 28 deaths in Limerick comprise 1 from scarlatina, 2 from whooping-cough, and 2 from diarrhoea. The Registrar for Newry No 1 District remarks—"There was 1 death (uncertified) registered as probably small-pox." The Registrar for Lurgan No. 1 District states that the death from small-pox registered in his district "occurred in a patient, aged sixteen, who had never been vaccinated successfully." The Registrar for St. Mary's District, Drogheda, reports "Influenza (epidemic) very prevalent, also some cases of scarlatina."

In the Dublin Registration District the registered births amounted to 197—117 boys and 80 girls; and the registered deaths to 284—142 males and 142 females.

The deaths, which are 77 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of

42·4 in every 1,000 of the population. Omitting the deaths (numbering 3) of persons admitted into public institutions from localities outside the district, the rate was 41·9 per 1,000. During the first eleven weeks of the current year the death-rate averaged 35·3, and was 2·6 above the mean rate in the corresponding period of the ten years 1885–1894.

The number of deaths from zymotic diseases registered was 27, being 5 in excess of the average for the corresponding week of the last ten years, but 4 under the number for the previous week. They comprise 4 from small-pox, 14 from influenza and its complications, 3 from whooping-cough, 1 from diphtheria, and 1 from diarrhoea. All of the four persons who died from small-pox were unvaccinated: their respective ages were, 2 months, 1 year, 7 years, and 47 years.

The number of cases of small-pox admitted to hospital was 30, being 4 under the admissions in the preceding week and lower than the number admitted in any week since that ended November 24, 1894: 47 small-pox patients were discharged, 4 died, and 72 remained under treatment on Saturday, being 21 under the number in hospital at the close of the preceding week. This number is exclusive of 118 convalescents in the South Dublin Union Small-pox Hospital, Kilmainham.

Eighteen cases of scarlatina were admitted to hospital against 10 admissions in the preceding week and 3 in that ended March 2: 43 cases of the disease remained under treatment in hospital on Saturday.

Only 1 case of enteric fever was admitted to hospital, being 5 under the admissions in the preceding week and 4 under the number in the week ended March 2. Six patients were discharged and 26 remained under treatment on Saturday, being 5 under the number in hospital on that day week.

Deaths from diseases of the respiratory system, which had been 82, 75, and 99 in the preceding three weeks, numbered 96, and were 47 in excess of the average for the corresponding week of the last ten years. The 96 deaths comprise 62 from bronchitis, 23 from pneumonia or inflammation of the lungs, and 2 from pleurisy.

In the week ending Saturday, March 23, the mortality in thirty-three large English towns, including London (in which the rate was 26·0), was equal to an average annual death-rate of 27·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 31·2 per 1,000. In Glasgow the rate was 28·6, and in Edinburgh it was 40·9.

The average annual death-rate in the sixteen principal town districts of Ireland was 36·6 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 1·6 per 1,000, the rates varying from 0·0 in eight of the districts to 22·8 in Lurgan—the 11 deaths from all causes registered in that district comprising 1 from measles, 3 from

whooping-cough, and 1 from diarrhoea. Among the 179 deaths from all causes registered in Belfast are 2 from measles, 2 from whooping-cough, 2 from diphtheria, and 8 from enteric fever. The 49 deaths in Cork comprise 2 from whooping-cough.

In the Dublin Registration District the registered births amounted to 187—101 boys and 86 girls; and the registered deaths to 302—149 males and 153 females.

The deaths, which are 87 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 45·0 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 44·3 per 1,000. During the first twelve weeks of the current year the death-rate averaged 36·1, and was 3·4 over the mean rate in the corresponding period of the ten years, 1885—1894.

Forty-four deaths from zymotic diseases were registered, being 22 in excess of the average for the corresponding week of the last ten years, and 17 over the number for the previous week. They comprise 5 from small-pox, 35 from influenza and its complications (against 14 under that heading in the preceding week), 2 from enteric fever, and 1 from erysipelas. Of the 5 persons who died from small-pox, 2 (aged respectively 24 and 40 years) had been vaccinated and 3 (aged respectively 23 days, 12 years, and 35 years) were unvaccinated.

The number of cases of small-pox admitted to hospital was 21, being a decline of 9 as compared with the admissions in the preceding week and 13 under the number admitted during the week ended March 9: 30 small-pox patients were discharged, 5 died, and 58 remained under treatment on Saturday, being 14 under the number in hospital at the close of the preceding week. This number is exclusive of 100 convalescent patients in the South Dublin Union Small-pox Hospital, Kilmainham.

The respective numbers of deaths from small-pox registered in the Dublin Registration District during the twelve weeks since the close of last year have been 5, 11, 10, 7, 5, 7, 8, 6, 4, 5, 4, and 5, all except five of which occurred in hospital; and the admissions to hospital for the same weeks have been 71, 88, 61, 64, 69, 60, 56, 37, 31, 34, 30, and 21 respectively. Since the outbreak began last July the admissions of small-pox patients to hospital have been 1,253, and the deaths 145.

The admissions of cases of scarlatina, which had risen from 10 in the week ended March 9 to 18 in the following week, fell to 14: 49 cases of the disease remained under treatment in hospital on Saturday.

Five cases of enteric fever were admitted to hospital, against 1 in the preceding week and 6 in the week ended March 9: 3 patients were discharged, 1 died, and 27 remained under treatment on Saturday, being 1 over the number in hospital on that day week.

There were 111 deaths from diseases of the respiratory system regis-

tered, against 96 in the preceding week and an average of 52 in the 12th week of the last ten years. They comprise 76 from bronchitis, 21 from pneumonia or inflammation of the lungs, and 2 from pleurisy.

VITAL STATISTICS

For four Weeks ending Saturday, April 20, 1895.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns	Weeks ending				Towns	Weeks ending			
	March 30.	April 6.	April 13.	April 20.		March 30.	April 6.	April 13.	April 20.
Armagh -	21.0	21.0	7.0	21.0	Limerick -	47.7	16.8	30.9	19.6
Belfast -	31.5	35.9	33.0	31.1	Lisburn -	17.0	25.7	29.8	12.8
Cork -	29.1	24.2	21.5	29.8	Londonderry	36.1	17.3	20.4	25.1
Drogheda -	57.1	26.4	13.2	17.6	Lurgan -	36.5	31.9	18.2	18.2
Dublin -	47.4	42.4	28.8	29.2	Newry -	12.1	24.1	20.1	24.1
Dundalk -	25.1	46.1	12.6	20.9	Sligo -	10.2	35.5	25.4	15.2
Galway -	15.1	49.1	15.1	26.4	Waterford -	37.5	15.0	17.5	35.0
Kilkenny	23.6	9.4	18.9	51.9	Wexford -	18.1	31.6	40.6	31.6

In the week ending Saturday, March 30, 1895, the mortality in thirty-three large English towns, including London (in which the rate was 21.1), was equal to an average annual death-rate of 23.4 per 1,000 persons living. The average rate for eight principal towns of Scotland was 25.4 per 1,000. In Glasgow the rate was 24.9, and in Edinburgh it was 23.4.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 37.4 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2.1 per 1,000, the rates varying from 0.0 in nine of the districts to 9.1 in Lurgan—the 8 deaths from all causes registered in that district comprising 2 from whooping-cough. Among the 165 deaths from all causes registered in Belfast are 4 from measles, 2 from typhus, 1 from whooping-cough, 1 from diphtheria, 1 from enteric fever, and 1 from diarrhoea. The 42 deaths in Cork comprise 1 from

measles and 1 from enteric fever. Among the 34 deaths in Limerick are 1 from scarlatina, 2 from whooping-cough, and 1 from enteric fever. The 23 deaths in Londonderry comprise 1 from scarlatina, 3 from whooping-cough, and 1 from diphtheria.

In the Dublin Registration District the registered births amounted to 219—116 boys and 103 girls; and the registered deaths to 326—154 males and 172 females.

The deaths, which are 120 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 48·6 in every 1,000 of the population. Omitting the deaths (numbering 8) of persons admitted into public institutions from localities outside the district, the rate was 47·4 per 1,000. During the first thirteen weeks of the current year the death-rate averaged 37·1, and was 4·6 over the mean rate in the corresponding period of the ten years, 1885–1894.

Sixty deaths from zymotic diseases were registered, being 16 over the number for the preceding week and 37 in excess of the average for the 13th week of the last ten years. They comprise 1 from small-pox (that of an unvaccinated girl, 3 years old), 45 from influenza and its complications (against 35 under that heading in the preceding week, and 14 in the week before), 3 from whooping-cough, 1 from diphtheria, 4 from enteric fever, and 3 from diarrhoea.

The number of cases of small-pox admitted to hospital was 29, being 1 under the admissions in the preceding week and 10 under the number admitted in the week ended March 16: 12 small-pox patients were discharged, 1 died, and 65 remained under treatment on Saturday, being 7 over the number in hospital at the close of the preceding week. This number is exclusive of 94 convalescent patients in the South Dublin Union Small-pox Hospital, Kilmainham.

Only 6 cases of scarlatina were admitted to hospital, against 14 admissions in the proceeding week and 18 in the week ended March 16: 50 cases of the disease remained under treatment in hospital on Saturday.

Six cases of enteric fever were admitted to hospital, being 1 over the admissions in the preceding week: 6 patients were discharged and 27 remained under treatment on Saturday, being equal to the number in hospital on Saturday, March 23.

The number of deaths from diseases of the respiratory system registered was 105, being 6 under the high number for the preceding week, but 62 in excess of the average for the 13th week of the last ten years. The 105 deaths comprise 77 from bronchitis and 17 from pneumonia or inflammation of the lungs.

In the week ending Saturday, April 6, the mortality in thirty-three large English towns, including London (in which the rate was 19·0, was equal to an average annual death-rate of 21·1 per 1,000 persons living.

The average rate for eight principal towns of Scotland was 24·7 per 1,000. In Glasgow the rate was 25·5, and in Edinburgh it was 20·0.

The average annual death-rate in the sixteen principal town districts of Ireland was 34·8 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·6 per 1,000, the rates varying from 0·0 in ten of the districts to 4·6 in Lurgan—the 7 deaths from all causes registered in that district comprising 1 from measles. Among the 188 deaths from all causes registered in Belfast are 2 from measles, 1 from typhus, 1 from whooping-cough, 1 from simple continued fever, 3 from enteric fever, and 4 from diarrhoea.

In the Dublin Registration District the registered births amounted to 207—114 boys and 93 girls; and the registered deaths to 290—120 males and 170 females.

The deaths, which are 94 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 43·3 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 42·4 per 1,000. During the first fourteen weeks of the current year the death-rate averaged 37·5, and was 5·2 over the mean rate in the corresponding period of the ten years 1885–1894.

The number of deaths from zymotic diseases registered was 59, being 1 under the number for the preceding week, but 36 over the average for the 14th week of the last ten years. The 59 deaths comprise 3 from small-pox—all unvaccinated persons aged between 30 and 36 years—46 from influenza and its complications (against 45 under that heading in the preceding week and 35 in the week ended March 23; 4 from whooping-cough, 1 from enteric fever, and 3 from diarrhoea.

There has been a further decline in the number of cases of small-pox admitted to hospital, the admissions being 17 or 8 under the number for the preceding week: 17 small-pox patients were discharged, 2 died, and 63 remained under treatment on Saturday, being 2 under the number in hospital on that day week. This number is exclusive of 57 convalescent patients in the South Dublin Union Small-pox Hospital, Kilmainham.

Eleven cases of scarlatina were admitted to hospital against 6 admissions in the preceding week, and 14 in the week ended March 23: 5 patients were discharged and 56 remained under treatment on Saturday, being 6 over the number in hospital at the close of the preceding week.

Only 2 cases of enteric fever were admitted to hospital against 6 in the preceding week, and 5 in the week ended March 23: 25 cases of the disease remained under treatment in hospital on Saturday.

Diseases of the respiratory system caused 98 deaths, being 7 under the number for the preceding week, but 53 over the average for the 14th week of the last ten years. The 98 deaths comprise 73 from bronchitis and 19 from pneumonia or inflammation of the lungs.

In the week ending Saturday, April 13, the mortality in thirty-three large English towns, including London (in which the rate was 19·3), was equal to an average annual death-rate of 20·5 per 1,000 persons living. The average rate for eight principal towns of Scotland was 24·7 per 1,000. In Glasgow the rate was 25·0, and in Edinburgh it was 21·1.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 27·9 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·0 per 1,000, the rates varying from 0·0 in twelve of the districts to 5·1 in Sligo—the 5 deaths from all causes registered in that district comprising 1 from diarrhoea. Among the 173 deaths from all causes registered in Belfast are 2 from whooping-cough, 1 from diphtheria, 4 from enteric fever, and 2 from diarrhoea. The 22 deaths in Limerick comprise 2 from whooping-cough.

In the Dublin Registration District the registered births amounted to 151—69 boys and 82 girls; and the registered deaths to 196—85 males and 111 females.

The deaths, which are 9 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 29·2 in every 1,000 of the population. Omitting the deaths (numbering 3) of persons admitted into public institutions from localities outside the district, the rate was 28·8 per 1,000. During the first fifteen weeks of the current year the death-rate averaged 37·0, and was 5·0 over the mean rate in the corresponding period of the ten years, 1885-1894.

The number of deaths from zymotic diseases registered was 32, being 10 in excess of the average for the corresponding week of the last ten years, but 27 under the number of the previous week. The 32 deaths included 2 from small-pox (those of men aged respectively 28 and 42 years, who had been vaccinated), 26 from influenza and its complications—being a decline of 20 as compared with the number under that heading in the preceding week—1 from whooping-cough, 2 from enteric fever, and 1 from diarrhoea.

The weekly number of cases of small-pox admitted to hospital, which, with a few intermissions, had gradually fallen from 88 in the week ended January 12, to 17 in the week ended April 6, further declined to 10. Nineteen small-pox patients were discharged, 2 died, and 52 remained under treatment on Saturday, being 11 under the number in hospital at the close of the preceding week. This number is exclusive of 55 convalescents under treatment in the South Dublin Union Small-pox Hospital, Kilmainham.

Seven cases of scarlatina were admitted to hospital, being 4 under the admissions in the preceding week, and 1 over the number admitted in the week ended March 30: 2 patients were discharged, and 61

remained under treatment on Saturday, being 5 over the number in hospital on the previous Saturday.

Only 1 case of enteric fever was admitted to hospital: 23 cases of the disease remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered was 47, being 51 under the number for the preceding week, but 10 over the average for the 15th week of the last ten years. The 47 deaths comprise 31 from bronchitis and 14 from pneumonia or inflammation of the lungs.

In the week ending Saturday, April 20, the mortality in thirty-three large English towns, including London (in which the rate was 18·8), was equal to an average annual death-rate of 20·3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 21·7 per 1,000. In Glasgow the rate was 22·3, and in Edinburgh it was 19·4.

The average annual death-rate in the sixteen principal town districts of Ireland was 28·8 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 1·6 per 1,000, the rates varying from 0·0 in seven of the districts to 4·7 in Kilkenny—the 11 deaths from all causes registered in that district comprising 1 from simple continued fever. Among the 163 deaths from all causes registered in Belfast are 3 from measles, 1 from scarlatina, 5 from whooping-cough, 5 from enteric fever, and 3 from diarrhoea. The 16 deaths in Londonderry comprise 2 from whooping-cough.

In the Dublin Registration District the registered births amounted to 190—82 boys and 108 girls; and the registered deaths to 199—86 males and 113 females.

The deaths, which are 11 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 29·7 in every 1,000 of the population. Omitting the deaths (numbering 3) of persons admitted into the public institutions from localities outside the district, the rate was 29·2 per 1,000. During the first sixteen weeks of the current year the death-rate averaged 36·5, and was 4·7 over the mean rate in the corresponding period of the ten years, 1885–1894.

The number of deaths from zymotic diseases registered was 21, being equal to the average for the corresponding week of the last ten years, but 11 under the number registered in the previous week. The 21 deaths consist of 1 from small-pox (that of a man aged 40 years, unvaccinated), 1 from scarlet fever (scarlatina), 18 from influenza and its complications—being 8 less than the number under that heading in the preceding week—and 1 from enteric fever.

Eighteen cases of small-pox were admitted to hospital, being 8 in excess of the admissions in the preceding week, and 1 over the number in

the week ended April 6, but 2 under that in the week ended March 30. Nine small-pox patients were discharged and 61 remained under treatment on Saturday, being 9 over the number in hospital at the close of the preceding week. This number is exclusive of 45 convalescent patients in the South Dublin Union Small-pox Hospital, Kilmainham.

The respective numbers of deaths from small-pox registered in the Dublin Registration District during the sixteen weeks since the close of last year have been 5, 11, 10, 7, 5, 7, 8, 6, 4, 5, 4, 5, 1, 3, 2, and 1. All of these except five occurred in hospital. The admissions to hospital for the same weeks have been 71, 88, 61, 64, 69, 60, 56, 37, 31, 34, 30, 20, 17, 10, and 18 respectively. Since the outbreak began last July the admissions of small-pox patients to hospital have been 1,318, and the deaths 152.

The number of cases of scarlatina admitted to hospital was 6, being one under the admissions in the preceding week: 8 patients were discharged, one died, and 58 remained under treatment on Saturday, being 3 under the number in hospital on Saturday, April 13.

Six cases of enteric fever were admitted to hospital, against one admission in the preceding week, and 2 in the week ended April 6: 25 cases of the disease remained under treatment in hospital on Saturday.

Forty-eight deaths from diseases of the respiratory system were registered, being one over the number for the preceding week, and 8 over the average for the 16th week of the last ten years. They comprise 30 from bronchitis and 12 from pneumonia or inflammation of the lungs.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat 53° 20' N., Long. 6° 15' W., for the Month of March, 1895.

Mean Height of Barometer,	-	-	-	29.683 inches.
Maximal Height of Barometer (on 17th, at 9 a.m.),	-	-	-	30.315 "
Minimal Height of Barometer (on 28th, at 4 45 a.m.),	-	-	-	28.632 "
Mean Dry-bulb Temperature,	-	-	-	43.0°.
Mean Wet-bulb Temperature,	-	-	-	40.9°.
Mean Dew-point Temperature,	-	-	-	38.3°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	-	.234 inch.
Mean Humidity,	-	-	-	84.6 per cent.
Highest Temperature in Shade (on 16th),	-	-	-	58.7°.
Lowest Temperature in Shade (on 13th),	-	-	-	29.5°.
Lowest Temperature on Grass (Radiation) (on 4th),	-	-	-	24.9°.
Mean Amount of Cloud,	-	-	-	63.1 per cent.
Rainfall (on 19 days),	-	-	-	2.748 inches.
Greatest Daily Rainfall (on 27th),	-	-	-	.569 inch.
General Directions of Wind,	-	-	-	W., S.W.

Remarks.

A changeable, dull, and rather rainy month. The cold weather, which had prevailed throughout January and February, lasted until Wednesday, the 13th, when the thermometer touched 50° in the shade in Dublin for the first time since December 25, 1894. A mild spell followed, continuing to the 24th, after which temperature fell away again and remained below average to the end of the month. This period of renewed cold was also one of heavy and persistent rainfall, 1.384 inches being measured in the week ended Saturday, the 30th.

In Dublin the arithmetical mean temperature (44.1°) was one degree above the average (43.1°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 43.0° . In the thirty years ending with 1894, March was coldest in 1867 and 1883 (M. T. = 39.0°), and warmest in 1893 (M. T. = 48.1°), and in 1868 (M. T. = 47.3°). In 1876 the M. T. was 41.1° , in 1879 (the "cold year") it was 42.5° , in 1894 it was as high as 45.4° , but in 1892 it had been as low as 39.1° . In 1892 February was actually 2.2° warmer than March.

The mean height of the barometer was 29.683 inches, or 0.233 inch below the corrected average value for March—namely, 29.916 inches. The mercury rose to 30.315 inches at 9 a.m. of the 17th, and fell to 28.632 inches at 4.45 a.m. of the 28th. The observed range of atmospheric pressure was, therefore, 1.683 inches—that is, almost an inch and seven-tenths.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 43.0° , or 9.4° above the value for February, 1895. Using the formula, *Mean Temp.* = *Min.* + (*max.* — *min.* $\times .485$), the M. T. becomes 43.9° . The arithmetical mean of the maximal and minimal readings was 44.1° , compared with a twenty-five years' average of 43.1° . On the 16th the thermometer in the screen rose to 58.7° —wind, W.S.W.; on the 18th the temperature fell to 29.5° —wind, W. The minimum on the grass was 24.9° on the 4th.

The rainfall was 2.748 inches, distributed over 19 days. The average rainfall for March in the twenty-five years, 1865–89, inclusive, was 2.061 inches, and the average number of rainy days was 16.5. The rainfall, therefore, and also the rainy days, were considerably above the average. In 1867 the rainfall in March was very large—4.972 inches on 22 days; in 1888, 3.753 inches fell on 18 days; in 1866, also, 3.629 inches fell on 21 days. On the other hand, in 1871, only .815 inch was measured on 12 days; and in 1874, only .953 inch fell on 12 days. In 1887 (the "dry year") 1.485 inches of rain fell on 15 days; in 1889, 1.076 inches fell on, however, as many as 17 days; in 1890 the fall was 3.693 inches on 17 days; but in 1891 only .936 inch fell on 16 days, and in 1892

only .991 inch on but 9 days. The smallest March rainfall was .288 inch on 8 days in 1893. In 1894, 1.287 inches fell on 14 days.

The atmosphere was more or less foggy in the city on 6 days—viz., the 5th, 12th, 13th, 16th, 18th, and 27th. High winds were noted on 13 days, reaching the force of a gale on three occasions—the 23rd, 24th, and 28th. Snow or sleet occurred on the 2nd, 3rd, 25th, and 28th; and hail fell on the 2nd, 3rd, 24th, 25th, 29th, and 31st. The temperature exceeded 50° in the screen on 13 days, compared with as many as 22 days in 1894, 26 days in 1893, only 7 days in 1892, 9 days in 1891, and 19 days in 1890, while it fell to 32° in the screen on 5 nights. In March, 1892, frost had occurred in the shade on as many as 16 nights; but no shade frost occurred in March, 1893. The minima on the grass were 32°, or less, on 10 nights, compared with 12 nights in 1894 and 1893, 25 nights in 1892, 20 nights in 1891, and 16 nights in 1890. The thermometer never rose to 60° in the screen, while it once failed to reach 40° (on the 3rd.) In March, 1892, the thermometer did not rise to 40° in the screen on 9 days. A solar halo was seen on the 18th, and a lunar halo appeared on the 13th. Brilliant aurora borealis also occurred on the night of the 13th. Lightning was seen on the evening of the 24th.

The first two days of the month were changeable, with frequent showers. On Friday, the 1st, a large depression spread south-eastwards down the North Sea, causing falls of rain, hail and sleet in most districts. Saturday was a raw, dull, wet day, and snow, sleet, and hail were again reported, the rainfall being .162 inch.

Although it began with a snowstorm, the week ended Saturday the 9th was not unfavourable, and a further slight advance in temperature is to be recorded. Rain also fell more freely than in past weeks. At the beginning of the period the barometer was low to the eastward, high to the westward, and accordingly fresh winds from northerly points of the compass prevailed. Borne on these came a heavy snowstorm on Sunday morning, followed by a sharp frost in the afternoon and at night. On Tuesday the western area of high pressure moved south-eastwards from the West of Ireland to the Bay of Biscay, and a V-shaped depression came in from the Atlantic over Ireland and Scotland. In front of this system quantities of cirrus cloud in long streaks spread across the sky from N.N.W., almost against the surface wind, which became southerly. Rain fell in many places—freely in the S.W. of Ireland. On Thursday a larger and deeper depression advanced eastwards across the British Isles. It caused fresh S. and S.E. winds and considerable falls of rain. At 8 a.m. of Friday the barometer was down to 29.17 inches both at Belmullet and at Valentia Island. Heavy rain fell at both these stations. On Saturday, the wind backed to E. and N.E. in Ireland, as a subsidiary depression advanced to the English and St. George's Channels. In Dublin the mean atmospheric pressure was 29.687 inches, the barometer

rising to 30·076 inches at 9 p.m. of Monday (wind, W.N.W.) and falling to 29·308 inches at 9 p.m. of Saturday (wind, N.E.). The corrected mean temperature was 39·7°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 39·2°. On Monday the screened thermometers fell to 30·3°; on Thursday they rose to 48·5°. The rainfall was ·412 inch on five days, ·130 inch being measured on Thursday and again on Friday. The prevailing winds were N.W. and S.E.

Cold and inclement as in past weeks at first, the weather of the week ended Saturday, the 16th, underwent a sudden and complete change on Wednesday, the 13th, and spring followed hard upon the retreating footsteps of the winter. On the day named the thermometer reached 50° in the screen in Dublin for the first time in 1895, or indeed since Christmas Day, 1894. The mean temperature of the first four days was 38·9°; that is, 4·3° below the average; that of the three last days was 50·4°, or 7·2° above the average. The mean temperature for the whole week was 43·8°, or 0·6° above the average. On Sunday morning a well-marked area of low pressure lay over the extreme S.E. of Ireland. Cold, gloomy, wet weather prevailed, with a breeze from N.E. in Dublin, but from S. in London. The total eclipse of the moon in the early morning hours of Monday was rendered invisible by clouds in Dublin. It was, however, well observed at Greenwich and in the English Midlands. At this time a very deep depression was passing north-eastwards across Portugal and Spain, the barometer having fallen to 28·91 inches at Lisbon on Sunday evening. As this system advanced, pressure became more uniform in the British Islands, so that calm weather, with fog at times, was felt. On Wednesday, the barometer rose over France and England and an anticyclone formed which threw a warm S.W. current upon the Irish and Scotch coasts. This afterwards spread over England, where the thermometer rose to a maximum of 57° from a minimum of 31° on Thursday. A very fine display of aurora borealis occurred on Wednesday evening and was seen from nearly all parts of the British Islands. In Dublin the mean height of the barometer was 29·925 inches, pressure ranging between 29·267 inches at 3 a.m. of Sunday (wind, N.E.), and 30·306 inches, at 9 p.m. of Saturday (wind, W.S.W.). The corrected mean temperature was 43·8°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 42·4°. On Wednesday the screened thermometers fell to 29·5°; on Saturday they rose to 58·7°. The prevalent winds were W. and S.W. Rain fell on Sunday only, to the amount of ·248 inch.

The weather of the week ended Saturday, the 23rd, was uneventful, save in one particular—namely, its remarkable mildness in contrast to the severity of so many previous weeks in succession. It was in character autumnal rather than spring-like, the air being very soft and damp, and the sky often cloudy or overcast, with frequent light rain. Sunday, however, was beautiful—sunny and mild as well as calm. On this day a broad

band of high atmospheric pressure—30·20 inches and upwards—embraced England, Ireland, Germany, and the northern two-thirds of France. To the northward pressure diminished to 29·09 inches at Bodø, in Norway, in a depression which afterwards travelled eastwards to Russia. A series of areas of low pressure subsequently crossed the British Islands in an easterly direction, causing the mild, damp, changeable weather of which mention has been made above. The most important of these systems advanced over Ireland on Saturday, bringing with it warm, squally S.W. winds and a considerable rainfall. On Sunday and Monday the thermometer rose to 60° or 61° at several inland English stations. On Wednesday a maximum of 60° was recorded at Roche's Point, Cork Harbour; on Thursday the thermometer reached 61° in London, 62° at Prawle Point, Devon, and 63° at Oxford; on Friday maxima of 64° to 66° were reported from several English stations. In Dublin the mean height of the barometer was 29·953 inches, pressure ranging from 30·315 inches at 9 a.m. of Sunday (wind, W.) to 29·239 inches at 9 p.m. of Saturday (wind, S.W.). The corrected mean temperature was 49·8°, or 6·0° above that of the previous week. The mean dry bulb reading at 9 a.m. and 9 p.m. was 49·2°. On Monday the screened thermometers fell to 35·9°, on Thursday they rose to 57·8°. Rain fell in measurable amount on three days, the total precipitation being ·410 inch, of which ·313 inch was received on Saturday. The prevailing winds were W. and W.S.W.

Extremely unsettled, wet, stormy, and generally inclement weather held throughout the week ended Saturday, the 30th. The distribution of atmospheric pressure over North-Western Europe was cyclonic in type, and on Sunday and again on Thursday the barometer fell to about 28½ inches in the centre of deep and extensive depressions. At 8 a.m. of Sunday the barometer read exactly 28·50 inches at Sumburgh Head, in the Shetlands, whereas it stood as high as 30·35 inches at Lisbon. A well-marked secondary depression lay over the S.E. of Ireland at the hour named. This system crossed England in the course of the day, causing very severe and destructive gales over Wales and the central and eastern English counties. The rainfall was slight within the storm area, but very heavy in the south of Ireland. Thunder occurred at Belmullet and York, and lightning was seen at night throughout England and Ireland. The storm was apparently violent in Scandinavia and accompanied by falls of wet snow, for it destroyed telegraphic communication. Snow also fell heavily on the Dublin Mountains, and in the city there were sharp showers of cold rain, sleet, and hail. On Tuesday forenoon a small partial eclipse of the sun (·09 in Dublin, the sun's diameter being taken as 1·00) was very well seen. On Wednesday, the second great atmospheric disturbance of the week came in over the S.W. of Ireland, thence travelling towards E.N.E. across this country and the North of England to the North Sea. Under its influence the weather remained

broken, rainy, and cold to the end of the week. In Dublin the mean height of the barometer was only 29·130 inches, pressure ranging from 28·632 inches at 4·45 a.m. of Thursday (wind, N.W.) to 29·586 inches at 9 p.m. of Saturday (wind, N.). The corrected mean temperature was 43·5°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 42·4°. On Sunday the screened thermometers rose to 55·5°; on Thursday they fell to 34·9°. Rain fell on every day, the total measurement being 1·334 inches, including ·569 inch on Wednesday. Hail fell on Sunday, Monday, and Friday; sleet on Monday and Thursday. The most prevalent wind was the N.W.

Sunday, the 31st, was a cold, changeable, showery day. Hail fell in the afternoon, and the N. wind blew freshly.

The rainfall in Dublin during the three months ending March 31st amounted to 9·084 inches on 52 days, compared with 6·028 inches on 53 days in 1894, 5·196 inches on 49 days in 1893, 4·808 inches on 48 days in 1892, only 1·650 inches on but 32 days in 1891, 7·470 inches on 45 days in 1890, 5·738 inches on 53 days in 1889, 6·097 inches on 41 days in 1888, and a twenty-five years' average of 6·411 inches on 51·0 days (1865–1889, inclusive).

At Knockdolian, Greystones, Co. Wicklow, 3·140 inches of rain fell on 20 days during March; and the total rainfall since January 1, 1895, equals 10·095 inches on 44 days. The corresponding figures for 1894 are 1·505 inches on 14 days, the total rainfall since January 1 having been 8·285 inches on 53 days.

The rainfall in March at Cloneev, Killiney, Co. Dublin, was 3·29 inches on 21 days, compared with 1·11 inches on 14 days in 1894, ·26 inch on 9 days in 1893, ·98 inch on 10 days in 1892, and a ten years' average of 1·658 inches on 13·9 days. The maximum in the 10 years was 3·59 inches in 1888, the minimum was ·26 inch in 1893. At this station the total rainfall since January, was 9·68 inches on 52 days, compared with a fall of 5·79 inches on 51 days in the first quarter of 1893, and 5·56 inches on 55 days in that of 1894.

THE VETERINARY RECORD.

THIS weekly periodical, devoted to veterinary subjects, is in the seventh volume of a vigorous youth. We note with pleasure that the course of education for veterinary surgeons has been extended to four years, the new system coming into force in May. We hope our friends will "rest and be thankful," and not follow an *exemplum vitii imitabile* by adding yet another year. Hygiene has been introduced into the extended course. The proceedings of a meeting of the Central Veterinary Medical Society are fully reported in the number now before us.

PERISCOPE.

ANTITOXIN.

THE *New York Post Graduate* is not enthusiastic in favour of antitoxin, which is, however, being prepared in the city in considerable amount. The *N. Y. Herald* raised a fund for this purpose, to which the municipality contributed largely. The "tuberculin craze" is a warning. "Even if the percentage of fatal cases has been diminished in Berlin and Paris, it does not certainly follow that this diminished percentage is due to the use of antitoxin. Years may differ in the virulency of certain diseases." "We may hope that the remedy for certain hitherto unreached cases may possibly have been found."

THE CLERK OF THE WEATHER.

DR. JOHN WILLIAM MOORE, of Dublin, who is specially qualified for the work as a Fellow of the Royal Meteorological Society, and also in many other respects, has written a book called "*Meteorology, Practical and Applied*," which is brim-full of information besides being expressed in perfect, easily understood English (somewhat of a rarity in these hurry-scurry days!); but whether Mr. F. J. Rebman was well-advised in bringing the volume out at the present juncture, is another matter. For the last—goodness only knows how many—weeks the weather has been so abominable that to most people the mere word meteorology is enough to set them swearing, inwardly if not outwardly, and the state of mind thus induced is not favourable from a commercial point of view. Apart from this defect, if it be one, it is impossible to pick a hole in Dr. Moore's most admirable production. Within the narrow compass of 468 crown octavo pages the would-be weatherwise will find all they can possibly require to set them up as perfect marvels of erudition amongst their wondering associates. Plates, illustrations and tables likewise abound, and the directions regarding the use and management of meteorological instruments of every description are so clear and minute, that by their aid any amateur could at once start an observatory. Few people, probably, will be surprised to find that America takes the lead in meteorological science. Dr. Moore gives an exhaustive account of the United States Weather Bureau, and the work done there under the direction of Mr. Mark Harrington. Great Britain itself occupies too small a portion of the earth's surface to be of much use meteorologically speaking; but, on the other hand, little if any advantage is taken of our vast and diversified possessions, wherein the potentiality for a most perfect system of intercommunication exists ready made. English people are always

talking about the weather, and on that account alone they owe the subject a debt of gratitude, and yet £15,000 per annum is the paltry sum which Parliament grants for meteorological purposes. If it were not that Mr. Symons is assisted by a veritable army of unpaid assistants it would be impossible to produce the actual forecasts, scanty and inadequate though they be. Apologists say that what they call the unavoidable absence of meteorological stations to the west and north of our islands renders trustworthy forecasts out of the question, but this is merely begging the question. The absence is by no means unavoidable. If Government really wanted information from these regions they could easily establish floating observatories. The expense would not be very great, and the value to our carrying trade would be enormous, to say nothing of the incidental advantage accruing to agricultural operations and "excursions of pleasure," i.e., picnics.—*Provincial Medical Journal*.

THE HUMANITARIAN.

THIS "Monthly Magazine of Sociology" is edited by Victoria Claffin Woodhull, *alias* Mrs. John Biddulph Martin. It is in its sixth volume, and its list of contributors includes writers of the very highest class—such as Roscoe, Lubbock, Holman Hunt, Richardson and Surgeon-General Sir W. Moore. We have received a copy of a "Manifesto," announcing a course of lectures by Mrs. Martin, beginning on the 14th April, with a discourse on "The Declaration of Interdependence." It is intended that lectures shall be delivered by this lady "at all important centres throughout the whole of Great Britain and Ireland," in support of The Humanitarian Movement or The Science of Divine Wisdom.

THE MEDICAL AGE

is a semi-monthly review of medicine and surgery published in Detroit. The contents are varied and more than usually lively. A leader headed "A Professional Disgrace" begins thus:—"Not satisfied with the 'sad lesson taught by experience' with the Bourgeon craze, Pasteur humbug, Listerism rage, Koch fiasco, Haffkin deception, animal-extract swindles, *et al.*, the medical press have now seized upon another novelty—viz., the antitoxine treatment of diphtheria." This iconoclastic breeziness is refreshing to the reader of many medical periodicals! We note a sensible practical paper in favour of ladies' bicycling.

SOME PRACTICAL POINTS ON ETHER-ANÆSTHESIA.

DR. WILLIAM D. PORTER discusses (*Medical News*, Philadelphia, LXV. 10) some practical points on ether-anæsthesia. He considers that five or six minutes is the safest time for producing complete anæsthesia. Until consciousness is lost the open method should be used, the amount of ether added to the air being regularly increased from zero up to the

full quantity in from three to four minutes; then the rubber bag is inflated and applied for the remaining two or two and a-half minutes. With regard to the deepness of the narcosis, "the ideal plan is to select the proper level for the anæsthesia, and to constantly endeavour to keep the vacillations, which necessarily occur above and below this plain, within the narrowest possible limit. "The danger of bronchitis is due to the tendency of the cold vapour to freeze the lungs. This can be largely averted by having the air of the room sufficiently warm. It is also dangerous to the lungs for the patient to be placed in a much cooler room immediately after the operation. "By the aid of a hot atmosphere I have seen ether used safely in cases of bronchitis." "The temperature should be from 80° F. to 90° F."

FOOTBALL IN EXCELSIS.

FOOTBALL in America is attended with much more serious consequences than in the British Isles, and several medical journals devote a column weekly to recording the fresh casualties. Surgical aid is provided on the field just as used to be done in duelling days. In 1892 the Yale Team paid for drugs, surgical supplies, medical services and rubbers, 857.89 dols.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

"Marrol."

Under this designation, the Liquor Carnis Company have recently added one more item to their long list of useful dietetic preparations. "Marrol" consists of ex-bone marrow, with hopped malt extract, and is described as "fattening, energy-forming, tissue-building, and blood-producing"—a large order, to borrow a commercial phrase now of wide application. In the normal physiology of the animal body, the marrow of bones is known to stand in a very direct causal relation to blood formation—it is a corpuscle-manufactory and it also increases the percentage of hæmoglobin. Now marrol is said to be exceedingly rich in marrow fat, as well as in heat-producing and energy-forming, carbohydrates. Hence its value in practical therapeutics as a blood-maker and restorer. It is devised on the lines of the well-known preparation called "Virol," which, however, contains in addition to bone-marrow and malt-extract, the fats and proteids of raw eggs, as well as the lime-salts of egg-shells. "Marrol" is less sweet than "Virol," and is in consequence more suitable as a food for adults, although children may take it also. It should be given thrice daily, with, or an hour after, food. The doses are—for adults, one tablespoonful taken plain; for children, one tea-

spoonful, plain or mixed with milk; for infants, half a teaspoonful, off the tip of the finger, or mixed with milk. It is well to begin with half doses. In the cases of adults, ale taken immediately after it relieves the sweetness. "Marrol" is cheap—a six-ounce bottle may be purchased for one shilling and three pence.

The "Climax" Clinical Thermometer.

Mr. James J. Hicks, the eminent scientific instrument maker, of Hatton Garden, London, E.C., has recently patented an improved clinical thermometer which bids fair to oust all competitors from the field. Up to the present the scale of a clinical thermometer has always been cut and figured on the surface of the glass, the divisions and figures being then blackened. The roughnesses in the glass thus caused were apt to become a receptacle for dirt, possibly of an infectious nature, whereas repeated thorough cleansing removed the black and made it difficult to read the instrument until the divisions and figures had been reblacked.

These two imperfections have been overcome by Mr. Hicks in a very ingenious and satisfactory manner. The divisions and figures, instead of being cut on the glass are drawn on a separate transparent scale, which is inserted in the body of the thermometer. This is shown in the accompanying illustration. In the section the small canal in front is the



tube of the thermometer. Behind it, the scale is seen embedded in the glass. The markings on this scale are clear and distinct, and can never fade. The external surface of the thermometer is quite smooth and can be thoroughly washed and rendered entirely aseptic. At night time, the divisions and figures are easily read by transmitted light.

It will be observed that the section of the "climax" thermometer is not round, or oval, but is flattened on one side, so as to lessen risk of breakage from rolling off a table.

The prices of this thermometer vary. The instrument with an ordinary tube, not magnifying, costs £3 a dozen. The extra-sensitive, not magnifying, thermometer is dearer—£4 10s. a dozen. The magnifying tube, read in the ordinary time—5 minutes—costs 78 shillings a dozen, while a "half" or "one minute" thermometer, with magnifying tube, is still dearer—108 shillings a dozen.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. XVIII.—*On Acute Inflammation of the Cæcum and its Appendix.** By **W. THORNLEY STOKER**, President of the Royal College of Surgeons in Ireland; Surgeon to the Richmond Hospital, and to Swift's Hospital; Fellow of the Royal University of Ireland.

So much has been written about typhlitis in connection with modern developments of abdominal surgery, and so much said as to the exact diagnosis and the treatment of the various inflammations which attack the cæcum, its appendix, and the tissues about them, that I desire to clear the ground for myself and others who may sympathise with my difficulty in accepting all that has been put forward in this context. The question of exact diagnosis is that which puzzles me most, and I must confess to inability to follow or apply in general the nice symptomatic distinctions which some writers draw between inflammation of the cæcum, of its appendix, of the areolar tissue behind it, or of the peritoneum which covers it. If localisations so exact exist—and I doubt their frequency—their discovery is more likely to be made on the operating table or in the *post-mortem* room than in the bed, and they are therefore of little help to the surgeon in guiding him as to the treatment he should adopt.

The cases to which I propose to refer are those of acute inflammation. What I have to say does not apply to relapsing inflammations, which present acute recurrences with chronic

* Being the substance of a Clinical Lecture delivered in the Richmond Hospital.

intervals. With them we have a more educated acquaintance; we recognise their clinical features, during their quiescent intervals we can often determine their exact nature by physical examination, and we have now attained definite views as to their proper treatment. I mention them only for the purpose of excluding them; they almost invariably have their origin in a diseased appendix, and usually demand removal of that organ during a chronic interval. It is because they always first bring themselves into prominence by an acute attack, and because operative treatment during that attack is so unfavourable when compared with laparotomy during a quiescent interval, that I desire to formulate my experience concerning the nature and treatment of acute attacks of typhlitis, be they primary or secondary. Of these relapsing inflammations we may, for the present purpose, dispose with the remarks:—

a. That they generally demand laparotomy, usually for the purpose of removing a diseased appendix.

b. That the operation, if done during an interval of freedom from acute disease, is seldom dangerous or unsuccessful.

The knowledge of these facts makes us more anxious to be able to overcome initial attacks of typhlitis by minor treatment, on account of the grave danger of operation at such a period, and of the frequency with which a first attack proves the only attack. The same reluctance to operate should obtain during subsequent acute relapses, in view of the confidence with which we may open the peritoneum when they have subsided.

If I use the term typhlitis, I do so for want of a better, and not because it is in any way exact. I mean it to comprehend inflammation in or about the right iliac fossa of the varieties variously named cæcitis or typhlitis, peri-typhlitis, para-typhlitis, and appendicitis. That an acute attack of one of these may occur without the other is evident, but the persistence of one of them without the other is a rare incident, and one not usually open to exact diagnosis.

I have seen a very large number of cases of acute primary typhlitis, and in nearly all of them have found it impossible to make an exact diagnosis as to the seat of the lesion, and in spite of the much writing which should have made us exact, have found myself lamentably behind the numerous arbitrary writers on this subject. To be sure, it is generally safe to accuse the appendix in these cases, because it presents the most characteristic symptoms and

signs, because it undoubtedly is usually the seat of the initial inflammation (for reasons to be estimated hereafter), and—less worthy reason—because by the time operation or the progress of disease has rendered matters more evident, the enterprising and exact opinion will be justified by finding it in a state of inflammation, which, if not primary, cannot be proved to be secondary. In other words, when it is, exceptionally, not the seat of the initial disorder it is almost sure to be attacked subsequently.

In a most instructive paper by Mr. Treves (*B. M. J.*, March 9, 1895), he deals with the influence of the *Bacterium coli commune* in producing typhlitis, and the circumstances under which it assumes the abnormal virulence which enables an otherwise harmless inhabitant of our intestines to become so destructive. With what he says on that branch of the subject it is not possible to disagree, it is logical and practical; but when seeking for the circumstances under which the appendix becomes the seat of recurrences he goes hardly far enough. It is not necessary to assume deformity or abnormality to explain why with, or without, the assistance of this bacillus the appendix becomes so frequently the seat of inflammation. If it be conceded that a foul or constipated large intestine predisposes to the virulent development of this micro-organism, it must be allowed, *à fortiori*, that the narrowest, most obscure, and most unused byway of the bowel is the likeliest breeding-place for mischief. Also, the frequency with which appendicitis appears only once and does not relapse is a strong argument in favour of the view that the normal appendix is generally that affected. There is one passage in Mr. Treves' paper which appeals most strongly to experience; it is that in which he remarks that the number of cases in which there has been only one attack is much greater than that in which there have been recurrences. This is a fact that will speak loudly to those who have seen a large number of cases of typhlitis, and it is at once an argument against the ready adoption of operations in first attacks, and against the probability of a deformity of the appendix being present. Recurrences are rare in children and of greater frequency in vigorous adult life. Observation has taught that operation in acute typhlitis is highly fatal, and should be resorted to only in very exceptional cases. Farther, certain lines of minor treatment are often successful, at all events in tiding over the immediate danger, and usually in producing permanent relief. Once we allow that persons who suffer from single attacks are much more numerous

than those who are subject to relapses, we have found the strongest reason, in face of the fatality of laparotomy in the acute stage, for using every other reasonable means. *I have rarely seen a case of acute typhlitis in which the large bowel was not full of old fæces, and I have still more rarely seen a case in which the colon could be unloaded in which recovery did not take place.* So true is this, that of late years I have nearly always regarded the emptying of the colon as ending the immediate danger to life, provided of course that the inflammation has not proceeded to the point where an abscess has formed or perforation taken place.

The question as to when laparotomy should be done in acute typhlitis, is one that is often difficult to answer. To be able to formulate an accurate reply to it would be to have reduced this branch of surgery to an exact science, and to be able to set aside the advantage which experience gives. So far as I am able to state my opinion on the matter, it is that if an abscess has formed or perforation taken place, laparotomy should at once be resorted to, but that, short of these misfortunes, operation should be delayed until the last possible moment. Of course there are exceptions to such a rule, but they are to be learned only by clinical study and cannot well be conveyed by words.

We are now at the top of an epidemic wave of operative treatment of inflammatory disease of the cæcum. It has risen too high, and, like other disturbances, will presently subside to a mean level. In 1889 I ventured to express strong opinions against the propriety of usually performing laparotomy in acute intestinal obstruction due to collections within the lumen of the bowel (*Trans. Acad. Med. Ireland*, 1889). This opinion I have since advocated still more forcibly (*B. M. J.*, Jan. 26th, 1895), and experience and observation of the practice of others have led me to form an equally strong judgment against the general wisdom of operating in cases of acute typhlitis, except under the conditions just expressed, or where other means have failed. These cases are of common occurrence in all classes, and at most ages except very advanced ones. There is a pleasant poetic justice in the reward of our surgical anxieties, implied by the fact, as I have observed it, that acute typhlitis is one of those complaints commoner among patients of the better class than in those in poorer circumstances. It is more frequently met with in private than in hospital practice. This is perhaps due to the high feeding and

constipation which are more usual among well-to-do people than among poor ones.

Putting aside the ultimate question of operation, it is to be considered what measures are at our disposal to empty the bowel and so place it in as strong a position as possible to resist the poisonous effects of the colon bacillus. It is so generally the case that the inflammatory process is initiated and kept alive by fæcal accumulations, and that if it has not proceeded to suppuration or perforation it will be arrested if the bowel can be emptied, that too much weight cannot be attached to the means of effecting this. There are two lines of treatment to be considered—the negative and the positive; the first embracing things that are to be avoided, the second things that are to be done.

Under the former head may be grouped as both improper and in common use—

1. The local use of irritants.
2. The employment of opium.
3. The abuse of feeding.
4. Reliance on the value of temperatures.

1. Local applications capable of causing any irritation are to be avoided. Anodyne, or other liniments, too hot poultices, or any treatment likely to inflame the skin, ought not be used; such measures have no good effect on the bowel, they obscure symptoms by rendering the skin tender, and should operation be unfortunately called for, it is not done to the best advantage through an inflamed integument and areolar tissue.

2. Opium should be used most cautiously, if employed at all. The number of acute bowel cases in which it is pushed to such a point as to conceal symptoms is large, and most surgeons can record abundant instances in which patients have been regarded as not alarmingly ill, because they have been kept narcotised until their condition was desperate. The only indication for its use is pain, and by concealing this it may keep the surgeon in a fool's paradise.

3. The abuse of feeding is a constant danger. In their anxiety "to keep up the patient's strength," solicitous friends give food to an embarrassing extent. It is difficult to make them understand that even fluids, if taken freely, can increase the loading of the disordered bowel. The quantity of material which can be introduced into the intestine by steady and persistent administration of repeated small quantities is astonishing. If vomiting be present

the mistake is even greater, for the patient becomes exhausted by it and by the failure to assimilate even the small quantity of nourishment he otherwise could. Of all food, that which I most dread is milk. The popular ignorance that it curdles when introduced into the stomach, and that it is not easily digested by persons suffering from intestinal obstruction, is productive of infinite harm. It is not only dangerous, because its good reputation induces its administration in larger quantities, but also because the curds are quite indigestible in these cases, and the use of milk adds to the solid load in the bowel. I have over and over again seen acute typhlitis stopped by a judicious process of starvation. This is particularly true in the cases of children, and singularly difficult to carry out in them, owing to the anxious prejudices of mothers.

4. The value of temperatures as a diagnostic aid in all disturbances involving the peritoneum is slight. They are very deceptive, and any undue reliance on them will lead to trouble. They may range high in insignificant cases, and are even more likely to be very low in grave examples of disease.

So much for things to be avoided. What of more positive treatment? This may be arranged under the heads of—

1. Diet.
2. Local applications.
3. Purgatives.
4. Enemas.

1. The food should be fluid, and of as small a quantity as will sustain the patient. If vomiting be present it ought to be reduced to the lowest possible point. Rectal alimentation is impracticable owing to the necessity of inducing the bowel to act. The choice lies between meat juice, beef-tea, whey, water, and some form of alcohol. The distressing thirst which exists in these cases is most difficult to overcome. If it be sought to relieve it by introducing much fluid into the stomach, it provokes vomiting. Ice increases the thirst, and by insidiously introducing water into the stomach tends to induce vomiting. Frequent rinsing of the mouth with hot water, and swallowing occasionally a teaspoonful of warm water, are the best means at our command to allay thirst.

2. The only local application of much value is a soft linseed meal poultice, not so hot as to redden the skin. It should not, as has lately been pointed out, be covered with waterproof material,

which by preventing evaporation, lessens its cooling qualities. I have never seen any other local measure of use.

3. Purgatives, if cautiously used, are not to be dreaded, except in cases of great acuteness and intensity. If there be vomiting, they must be administered by the rectum, but in that event they are of less value. The sulphate of sodium is perhaps the best, and if a purgative by the mouth be permissible, I usually order it in two drachm doses, repeated every hour until an effect has been produced or four doses have been taken. But purgatives should be avoided unless the enema has failed, or until it has commenced to be effective, or except in cases where complete obstruction does not exist in the beginning of the attack.

4. Of all means at our command, the enema, if properly employed, is the safest and best agent for the relief of a loaded large intestine. The method of employing it which I now invariably use, is that described in the *Brit. Med. Journal*, of January 26th, in the present year. To the enterprising operating surgeon it has one objection—it is extremely slow. I have often spent two hours at the bedside of a patient suffering from impacted large intestine, with or without typhlitis, before fæcal matter began to come away. But when it does begin to come away, the corner is generally turned. If the process is tedious to the surgeon, it is at all events not exhausting to the patient. There is nothing of which I have become more thoroughly convinced than that nearly all cases of acute typhlitis have their origin in a loaded colon, except the fact that if that colon can be unloaded in time, recovery will take place. The process of fæcal impaction of the large intestine begins in the sigmoid flexure, it gradually extends in a proximal direction, first involving the descending colon, then the transverse colon, and lastly, the ascending bowel and cæcum. The time at which the proximal accumulation may set up inflammation is most various. The hostile effects of the bacillus may show themselves in some patients who have accumulation not nearly reaching to the cæcum, in others it is not evident until the caput coli itself is involved. But this in no way upsets the theory of fæcal accumulation as an exciting cause of typhlitis. It is merely an assertion of what every pathologist knows—that some people and some bowels are more susceptible to morbid influences than others. If it once be conceded (and can it be denied) that the colon bacillus is rendered hostile by constipation, it seems evident that purgation is, if achieved early enough, likely to be a remedy for its ill effects. If, as I believe,

the bowel can best be emptied by a process of washing, a process perhaps laborious, but almost certain in its result, then it has a claim for careful employment. Beyond the theory of the matter is the practical fact, which I trust will obtain acknowledgment, that purgation, if obtained before perforation has occurred or an abscess formed, is generally the end of immediate danger in typhlitis.

I do not produce a list of cases in illustration of my views, although my observations have been numerous and extended over many years, because conclusions, and not isolated instances, are what we want in matters of debate. My conclusions, very anxiously arrived at, are—

1. That in this, as in some other acute peritoneal inflammations, operation is most unfavourable, should be seldom resorted to, and has been too freely adopted; and

2. That purgation, if it can be induced, is the best remedy at our disposal, and that the most likely and safest way to effect it is by hydrostatic washing with warm water and a soft tube.

ART. XIX.—*Notes on Medicine and Surgery.* By SIR PHILIP C. SMYLY, F.R.C.S.I.

IN the September number of this Journal I gave the history of a case treated by the Schott movements at home, and completed by a visit to Nauheim. This case has made a most satisfactory recovery.

On her way back from Nauheim she was seen by Dr. Bezly Thorne in London. He writes, July 25, 1894:—

MY DEAR SIR PHILIP—I had the pleasure of seeing Miss V——, on Saturday last, and a very real pleasure it was to be the eye witness of such a resurrection. Her case is one of the most remarkable I have ever seen, and I congratulate you most heartily. . . . Believe me, yours sincerely,

W. BEZLY THORNE.

The present communication is to show that most satisfactory results can be obtained at home by the systematic use of the Schott movements without baths either natural or artificial.

Several Irish physicians have been much interested in this new treatment, and have watched the cases under my care with much attention. This treatment I may call the surgical or chirurgical treatment of chronic heart disease. The Schott movements are all done by the hand.

The three cases I now publish were watched and checked by—

Dr. Cruise,	Dr. FitzGerald,	Dr. Craig,
Dr. Hawtrey Benson,	Dr. Heuston,	Dr. Tweedy,

who all took a keen interest in the progress of each case.

I may here mention the routine observed:—1. The patient is placed standing or sitting upright. 2. The area of dulness is marked with a clinical pencil. 3. The movements are proceeded with—at first with great caution; a good rest between each movement. 4. A second limitation is made with the clinical pencil; and 5. A tracing is taken on transparent linen. Those tracings are kept, and the area of dulness is taken on the chart from time to time. Thus the medical attendant can exactly gauge the progress of the case.

In the following cases I will not give all the measurements, but only the relative position with regard to the middle line of the sternum, and the extreme diagonal:—

CASE I.—Rev. C. M. The heart's action very irregular; loud double bruit; cyanosis well-marked; breathlessness considerable.

17th of October, 1894.—1A. Area of dulness—diagonal from under right clavicle to beyond the apex impulse = 12 inches. 2A. From below the right clavicle to the middle line of the sternum = $2\frac{1}{2}$ inches. 3A. From edge of dulness below left clavicle to above the diaphragm = $7\frac{1}{2}$ inches.

After fifteen minutes the measurements were—1B. = 10 inches. 2B. = $1\frac{3}{8}$. 3B. = $5\frac{1}{8}$.

After regular treatment up to the 10th of December—when he returned to the country—the limit of dulness was 2 inches $\frac{1}{8}$ to the left of the sternum. The total diminution in this direction from the 17th October to the 10th of December was 4 inches $\frac{1}{8}$. The case continues to improve and he has been able to return to his duty.

CASE II.—Rev. H. G. Extreme cyanosis; breathlessness and pain. This is the first case alluded to in Dr. Hawtrey Benson's letter (see below). Treatment began 13th December. Limit of dulness, 2 inch $\frac{3}{8}$ to the right of the middle line of the sternum. After 20 minutes' movements, 1 inch $\frac{3}{8}$.

22nd December, after 20 minutes' movements, $\frac{7}{8}$ of an inch to the right.

17th March—not having had any movements for seven weeks—the limit of dulness remained the same ($\frac{7}{8}$ of an inch to the right).

5th May, limit of dulness is 1 inch $\frac{1}{8}$ to the left of the sternum. This patient is now able to do his duty and is nearly quite well.

CASE III.—Mr. W., aged eighteen. Cyanosis and distress in breathing, first noticed in 1887; the distressing symptoms have steadily increased, until about a month before the 17th February, 1895, when the distress in breathing became very much worse and the cyanosis extreme.

17th February, the extreme diagonal from under the right clavicle is = 11 inches. To the middle of the sternum = $2\frac{1}{2}$ to right.

24th February, " " = $1\frac{1}{2}$ "

10th March, " " = $\frac{1}{2}$ to the left.

7th April, " " = $\frac{3}{8}$ "

5th May, " " = 1 inch to left.

That is to say, the area of dulness is now normal, and all the symptoms correspond to the diminished heart. He is able to do his work; his breathing is normal; his colour bright and fresh, without any blue. The bruits have almost ceased. He is practically quite well.

I have other cases under treatment which are not advanced enough to describe. There are, however, two cases I began to treat in the Meath Hospital—one last summer. The treatment began with great caution, only very moderate movements for a very short time. The digitalis treatment was discontinued. The man died next day; some declared his death was due to the stoppage of the digitalis. This month—May—Dr. Craig asked me to try the Schott treatment in a very extreme case. The patient had been on digitalis for some days without obtaining any relief. After the movements Dr. Craig found him improved, and next morning he said he had had a good night and felt better; his feet, which had been very cold before became warm, and the cyanosis was less. This case, I was determined, should not die from the omission of the digitalis. He was too weak to do any movements next day, and he died the day after. These two cases teach us a great many lessons.

I concluded my notes last September with a letter from Dr. Cruise. This I will conclude with a letter from Dr. Hawtrey Benson:—

58 FITZ WILLIAM-SQUARE,

May 6, 1895.

DEAR SIR PHILIP,—In reply to your inquiry, I have been more than pleased and quite surprised to find such a decided improvement in the condition of Rev. H. G. (Note Case II. above.)

As you know, he had been under my care for some months last summer and autumn, when he improved up to a certain point under the usual treatment. The improvement having come to an end or nearly so, you

then proposed the movements, portion of the Schott treatment, and, though I consented, I confess I was thoroughly sceptical as to the probability of its having any beneficial result. Having conducted the treatment for some few months, you kindly asked me to see him at your own house. I did so, and I was greatly surprised with the marked improvement I saw in his condition.

The murmur was diminished; the area of dulness greatly lessened; the apex beat much nearer to its normal position. The cyanotic hue which had been habitual, was replaced by a glow of health. The pulse had become slower, fuller, and more regular, while the subjective symptoms were quite in correspondence.

I have since placed on the same treatment, a middle-aged lady, who had been under my care for some months, and had been seen by Dr. James Little in consultation with me. She has an enlarged heart with a mitral systolic bruit palpitation, pain, breathlessness, &c. She, like the last case, had arrived at the stage when improvement had ceased, and restless discontent had begun.

She is not yet a fortnight under the Schott treatment, yet there is a decided improvement both objectively and subjectively. I can let you have the notes of the case later on.

I am about to place on the same treatment a gentleman, middle-aged, with great enlargement of the heart, displaced apex, no bruit, dropsical legs, &c. I will be happy to let you know the result.

Yours very sincerely,

J. HAWTREY BENSON.

In conclusion, I wish to call the attention of the profession in Ireland to this most important and interesting subject.

In this month's number of the *Practitioner*, Sir William Broadbent has given the sanction of his great name to this treatment by some notes appended to a paper by his son.

Dr. Bezly Thorne has just issued a most valuable handbook to the Schott treatment.

ART. XX.—*Animal Oils and the New Pharmacopœia. The Properties of "Oleum Anseris" or Goosegrease.* By LANGFORD SYMES, Physician to Kiltegan Dispensary, &c., &c.

BEING struck for some years with the scarcity of the animal oils and oleaginous substances in our Pharmacopœia in comparison with those derived from vegetables, I would venture to briefly bring before the Profession the properties of an oleaginous sub-

stance of peculiar penetrating power, and one for many years well known in most households.

At present we possess but three animal oleaginous substances in the British Pharmacopœia—viz. :—

1. *Oleum morrhuæ*.
2. Lard.
3. Hydrous Wool Fat (“Lanolin”).

This strange coincidence is almost surprising in itself, considering the number of oils known in medicine and commerce. The third material has of late years been in use—viz., *Lanolin*, and there is reason to believe this possesses properties which would entitle it to a place in our formularies.

The one of which I write, however, is more easily obtained than most oils, and is already well known to the public. It is plain “goosegrease.” That this substance possesses valuable medicinal properties is, to my mind, clear beyond question. It is of the easiest purchase—cheap, one would imagine, as a marketable article, and of its activity, when used in medicine, I have had for a considerable time no doubt.

In affections of the chest it is a most excellent substance to apply even alone. In bronchitis of the sub-chronic type or what would best be termed a “cold in the chest,” or moderate bronchial catarrh, few liniments or applications will be found to equal this “*oleum anseris*,” or goosegrease. Stimulative liniments are frequently prescribed for this condition, and they are most efficacious in their action. I have, however, frequently witnessed the “rubbing-in” process of these substances, and while some penetrate the skin with great difficulty, a few do not at all. Now, if a drachm or so of this grease be placed in the hand of the rubber, and the liniment poured thereon, it will be carried into the tissues in a remarkable way.

During the late influenza epidemic—an epidemic fraught with some of the most interesting lessons in the study of medicine—I frequently observed patients who were using this remedy for the cough which was associated with the later stages of the disease, and marked the benefit they obtained therefrom. Where some bronchial mischief remains unresolved in the lung, and that peculiar tenacious viscid secretion lies attached to its internal mucous or serous vesicular wall, a stimulating liniment will be immensely helped by the addition of this oil. It becomes much easier to rub in, and appears to become absorbed rapidly.

One case in point was very striking. A gentleman sickened with influenza of what, in endeavouring to describe it, I have termed the "*chronic*" type. Never ill enough to stay in bed, and scarcely well enough to be out, of it he was troubled with dry "*hacking*" cough for many days. Scarcely any secretion was expelled from his lungs, in which there lay lodged, with a desperate tenacity, a small quantity of viscid exudation. With the aid of suitable internal remedies he gained ground very slowly. The liniment of camphor and ammonia (Lin. camph. co.) was prescribed for him and helped him but slightly. Goosegrease was added and its effect became at once apparent. In a day or so, being much better, this oil was omitted and he became bad again. It was repeated at each application and great benefit followed. A second and a third time he omitted the goosegrease and the cough and the distress returned. It was rapidly removed, however, by an unceasing application of it. This gentleman being convinced of its efficacy, mainly attributes his recovery to its specific action on his chest. Another instance, at this time, was that of a gentleman who had a cough for two months and had suitable prescriptions prepared for it. They relieved him but little. At the end of the two months he was recommended an application of this oil, and I am a personal witness of the complete removal of his cough by no other remedy than it after three or four days.

Of its penetration there is no doubt. I have seen it remove, in a distinct way, muscular rheumatism when rubbed in. Thickening in the neighbourhood of joints after sprains or subacute rheumatic inflammation will be greatly aided towards resolution by its use.

Another manner in which I have witnessed marked benefit result from its use is in the case of wasting or marasmus. When rubbed *into* the abdomen and groins of young children it is a decided nutrient, and experience has convinced me of its efficacy. It can be eaten on bread with salt, and in this way, if freshly prepared, is very palatable and nutritious.

If a further illustration of its powers were wanted, its use by sportsmen supplies it aptly. I have been told by experts on firearms that it is not a good thing to too liberally apply to guns, "*as it is far too penetrating,*" "*it eats or worms its way*" into every conceivable crevice.

As a basis for liniments, or the softer kinds of ointment, when

the effect is desired upon the underlying tissues, I can conceive no better substance to "carry in" a drug into the deeper parts. It far exceeds lard in efficacy; and, than vegetable oils, I hold that it possesses far greater permeating qualities. It is liable, I believe, to become rancid, but I have kept it for many weeks by the simple addition of some boric acid. Active drugs incorporated with it will, when applied externally, be under the best conditions for permeation through the skin, and it will not lie on the surface unabsorbed so much as other oils.

At this juncture, it strikes me, others might give their experience of this substance if they have used it. Its popularity appears to be chiefly confined to Ireland, and, mainly, I should imagine, to country districts; but that, in this substance we have an excellent vehicle for the inunction of drugs in various diseases, I am so convinced that, in place of a needless intrusion, my bringing it forward to the notice of the Profession, has become almost my imperative duty.

ART. XXI.—*Egypt for Invalids.* By HERBERT JUNIUS HARDWICKE, M.D., F.R.C.S. and M.R.C.P.E.; Consulting Physician to Sheffield Public Hospital for Diseases of the Ear, Throat and Skin; late Editor of *The Specialist*, London.

As the large majority of the visitors to the Nile from this country are invalids, who travel that great distance for the sake of escaping the rigour of our winter, and of repairing shattered or failing constitutions, and as people even in robust health are as a rule tempted to Egypt on account of its climate, it may as well be pointed out at the outset of this article, that there is no perfect climate known to us, and therefore the notion that in the land of the Pharaohs there will be found all necessary climatic conditions for the enjoyment of perfect bodily health and length of days may be dismissed as altogether erroneous. In the capacity of medical officer of the Egyptian Tevlikeeyeh Co.'s winter service of pleasure steamboats plying between Cairo and the First Cataract, I had ample opportunity, during the many calls at places of interest *en route*, as well as on numerous excursions to the desert on both sides of the river both below and above Asswahn, in Nubia, of carefully studying the climate, which I found to be exceedingly trying in many respects.

What I stated in former publications* I repeat now—viz., that it behoves the medical advisers and friends of invalids to be most careful in the selection of a resort for the winter. It has been my lot to witness most deplorable results from ill-advised and hasty selections; and it may be truthfully said that many of the people whom I met in Switzerland, on the Mediterranean, and in Egypt, during my several winter sojourns abroad ought never to have been allowed to leave England, numbers of them speedily succumbing to the severities of the very climate they had gone out to revel in as a panacea for all ills. As a matter of fact the particular diseases benefited by a sojourn on the Alps, on the Riviera, in Spain, in Algeria, or in Egypt are very few indeed compared with the huge number of ailments that human flesh is heir to; and many of those who have been sent to perish abroad might instead have derived considerable relief from a residence, temporary or permanent, as the case might be, at some of our own health resorts, St. Leonard's, Ventnor, Bournemouth, and Torquay supplying all that is necessary for a winter residence for a large class of invalids, more especially St. Leonard's, which, in my opinion, is our best health station, having more sunshine, and being drier and more bracing both in winter and summer than the others, and therefore more suitable for a larger class of invalids, as well as for a residence at all seasons of the year.

Roughly speaking, the people who ought on no account to winter in Egypt are those suffering from advanced phthisis, recurrent hæmorrhage and weak eyes, and those who are subject to febrile affections and acute congestions; while sufferers from incipient phthisis, neuralgia, rheumatism, chronic renal disease and nerve exhaustion derive distinct benefit from the climate. It should always, however, be borne in mind that a winter residence in a country where there is no cloud or moisture, and a temperature varying from 70° to 100°^b in the shade at mid-day, makes it all the harder for an invalid afterwards to face a home winter, with its moisture, cloud and fog, and an average temperature of 36° in January, and 50° in October and May; and, therefore, if it is not possible to spend every succeeding winter on the Nile, or in some

* "Alpine Climates for Consumption." J. & A. Churchill. London, 1894.
"Rambles Abroad," and "From Alps to Orient." C. Watts & Co. London.
"Health Resorts and Spas of Europe." W. H. Allen & Co., London.
"Medical Notes on the Spanish Peninsula and Morocco." *Lancet*, Aug. 25th 1888.

^b Fahrenheit's scale is used throughout the article.

other similar climate, such as Biskra, it may, in many cases, be a question for very serious consideration whether it is advisable or not to pass any winter in Egypt at all.

Egypt has its advantages and disadvantages as a health resort. The principal advantages it offers are an exceedingly dry and tonic air; complete absence of rain on the Nile south of Cairo, and almost none at Cairo itself; continual sunshine; no fog and almost no clouds; very rarely much wind; total outdoor life; freedom from care; plenty of amusement; and a rich field for research and study amongst its unparalleled ruins. The disadvantages are the distance from England, being by the quickest route six days, three of which must be passed on the sea; the great expense, and the dangers arising from imperfect sanitation, fever, sore throat, diarrhoea, ophthalmia and sunstroke, and also from colds contracted on the Nile steamboats, which sometimes run to pneumonia. The best time to start for Egypt, if the traveller be in tolerably good health, and merely in quest of rest and recreation, is about the commencement of the new year, arriving in Cairo, which is 128 miles by rail from Alexandria, the second week in January. As the season is at its height, and the weather at its best in Cairo in February, it is well to depart as soon as possible for Upper Egypt, leaving the city and district to be explored and enjoyed later on.

The double journey between Cairo and Asswahn,* in Nubia, at the first cataract—a distance of nearly 1,200 miles—may be accomplished by rail to and from Geergeh and post-boat beyond in about a fortnight, by rail to and from Assiout and pleasure steamer beyond in about the same time, by pleasure steamer all the way in three weeks, and by sailing *dahabeeyeh* in two months, all the principal ruins and antiquities being visited *en route*. Invalids who proceed to Egypt for the purpose of wintering there should arrive in Cairo about the end of November, and if the question has not already been settled for them before leaving England, should immediately consult a physician as to whether they ought to remain in the city or go to the “Mena House Hotel” at the Pyramids, to Helwahn, to Looxor, or to Asswahn. Although in the main all these places possess somewhat similar climates, yet in the case of an invalid the slight differences between them

* All names of places and modern Arabic words are written as nearly as possible phonetically in this article, as many of the Arabic letters have no English equivalents.

are of considerable importance, besides which there are other and vital considerations involved—such as situation with regard to hills, river and desert, society, personal safety, &c. Putting out of the question the Delta, no part of which is adapted for a winter residence, Cairo, in the matter of climate, is the least suitable place in Egypt for the majority of the invalid visitors, owing to the occasional cold winds, dust and draughts in the streets and on the hotel balconies, the dangers arising from bad smells in the native quarters and bazaars, and the often bitterly cold nights following hot days, more noticeable here than higher up the Nile. But on the other hand, it offers the best preventive to *ennui* and depression in the amusement to be derived from the bazaars, the ever-varying oriental colouring and liveliness of the street scenes, the attractive charm of its cosmopolitan society, and the delightful excursions to be made in the vicinity of the city—such as to the splendid museum, to the Citadel and great mosques of Sultans Hassan and Mohammed Ali, from the tall minarets of which the muezzins call the Faithful to prayer several times daily; to the Tombs of the Khalifs, to the Mokattam Hills, 600 feet above sea-level; to Helwahn, to the Ostrich Farm, to the Obelisk of Heliopolis—the oldest pillar in the world, erected 5,000 years ago, and now all that remains of the ancient City of the Sun, at whose university Solon, Pythagoras, and Plato studied; and to the Sphinx and Pyramids of Gheezeh, eight miles away at the edge of the Lybian Desert.

According to the statistics issued by the Khediveal Observatory at Abbasseeyeh, near Cairo, the following are the temperature figures for the five years 1884–88:—mean maximum: December, 67·7°; January, 61·4°; February, 65·3°; March, 73·2°; mean minimum: December, 50·4°; January, 46·6°; February, 48·8°; March, 53·0°; from which many may assume that the winter temperature is quite pleasantly temperate, a fallacy which is quickly demolished when it is stated that the mid-day temperature is sometimes 70° to 80° in the shade in December and January, and 80° to 90° in February, and the night temperature frequently close upon, or even below, freezing point in December and January. Even after a mid-day temperature of 150° to 160° in summer the nights are always quite cool, owing to the rapid radiation of heat after sunset. The winds, moreover, in December and January, are always cold in spite of the hot sun; even the south wind from the desert, which is scorching hot at other times, is in December

and January quite cold. The water supply of Cairo is very good, being derived from the Nile above the city and filtered at Abbas-seeyeh. The sanitation in the Ismailiyeh quarter, from the Fzbe-keeyeh gardens to the Kasr-el-Nil bridge, is also well looked after by the authorities under British supervision, and is in a satisfactory condition.

The "Mena House Hotel," at the foot of the Gheezeh Pyramids, is said to be preferable to Cairo as a winter resort for invalids on account of its greater freedom from dust and draughts, and its greater quiet and repose, but to my mind it may easily be found too quiet for invalids who are at all inclined, as so many are, to brood over their condition and give way to depression of spirits, besides which it is not at all clear that the neighbourhood of the Pyramids is particularly free from dust, clouds of which are often raised by the carriages and donkeys arriving daily in crowds from Cairo. Then as to tranquillity, these numerous visitors naturally create a considerable amount of stir at and about the hotel, entirely preventing repose without bringing the counter-balancing pleasures derived from agreeable society, for they arrive in the forenoon and depart in the afternoon.

A visit to the Pyramids forms the principal excursion from Cairo, and may be made either by carriage or on donkey-back, the road being a good one, and passing for the greater part of the distance beneath a fine avenue of trees, which effectually protect one from the intense rays of the sun. Arrived at the end of the road near the hotel the visitor is immediately surrounded by Bedouins, from whom he hires a camel to convey him round the Pyramids, to the Andro-sphinx, with the head of a man and the body of a lion, and the numerous remains of temples and rock tombs; a far better plan than attempting to walk, for the ground is not only very hot but exceedingly rugged. Of course almost all the visitors desire to enter the interior of the large Pyramid of Keops through the hole in its side, and also to ascend to the outside summit, being assisted by Bedouins in front, behind, and at each side; but there is serious risk in both to invalids, the former producing copious perspiration from the intense internal heat, and the latter causing considerable interference with the action of the heart and lungs from the great exertion and elevation.

Another very favourite excursion from Cairo is that to Helwahn, a thermal mineral water spa, situated in a small artificial oasis of the desert, about three miles from the right bank of the Nile and

fifteen miles south of Cairo, with which it is connected by railway from the Bab-el-Look station.

The little town stands on a plateau of hard sand 112 feet above the level of the river, at the foot of the Toorra hills, in full view of the pyramids at Dahshoor, Sakkahra, Abooseer Zahweeyet, and Gheezeh, on the far side of the river, and possesses a lovely climate with no dust, a commodious bathing establishment and several good hotels. There are five sulphur springs, two of which supply the baths, having a temperature of 86° , which is artificially increased to 100° or 102° , without causing any evaporation of gas; while a third one, of the same temperature, supplies a fountain for the poor. These waters are similar to those of Aix-les-Bains, in Savoy, but rather stronger, and when used in baths, at 15 to 30 minutes' duration, are of the greatest benefit to sufferers from rheumatism, gout, and certain cutaneous and hepatic affections, provided there is no serious cardiac complication. They contain chloride of sodium, magnesium and calcium, bicarbonate and sulphate of lime, chloride of silica, and $\cdot 0015$ of organic matter in 6.2300 grammes, or 35 fluid ounces of water, together with sulphuretted hydrogen, carbonic acid and nitrogen gases. The remaining two sulphur springs are less warm and not at present used. There are also two chalybeate springs, with a temperature of 77° , and a saline aperient water of the same temperature, which is largely bottled and exported,

Existence at Helwahn is by no means dull or monotonous, there being always plenty of visitors in the hotels, and trains passing to and fro between the city and the spa constantly during the day, making the single journey in three quarters of an hour, at a cost of 1s. 8d. first class return; besides which there is good sport in the surrounding desert for those who are able to follow it, such as hunting and shooting gazelles, hyenas, wolves, foxes, and jackals.

Should the invalid be ordered to winter in Looxor or Asswahn. it will of course be necessary to ascend the river southwards, and the best time to do this is before the beginning of December if by rail to Assiout or Geergeh, or by *dahabeeyeh* from Cairo, and before the middle of December if by pleasure steamer the whole way, so as to avoid the cold north winds which blow frequently between that time and the middle of January, as far south as Assiout. The journey by rail to Geergeh, and thence by post boat, is perhaps, for tolerably healthy and strong people, who are desirous of not spending too long a time in the country, the best

of the four modes of ascent, inasmuch as there are only two excursions of interest to be made below Geergeh—viz., to Memphis and Sakkahra, which can easily be done in one day from Cairo, and to the tombs of Beni-Hassan, which may, without very much loss, be omitted altogether; yet for invalids it is quite inadmissible, owing to the length of the railway journey, the dust and the absence of hotel accommodation at Geergeh. The same may be said of the journey by rail to Assioot where there is a very poor hotel, and thence by pleasure steamer. The question as to whether a *dahabeeyeh* or a pleasure steamer be employed for the ascent must be settled by the taste of the invalid, for what one person may like another may dislike; but it appears to me that while a person suffering from the effect of an overwrought nervous system would be benefited by the snail-paced motion and lotus-eating existence of *dahabeeyeh* life, being slowly moved forward by the etesian north wind in the great lateen sails or towed by nine or ten Egyptian sailors, and breaking the monotony occasionally by a little shooting, fishing, rowing, and bathing; yet for the majority of invalids, who above all things require amusement to lift themselves, as it were, out of themselves, the life would be found far too depressing, when the novelty had worn off after the first week or two, when all that was at first new, strange and delightful became old, commonplace, and wearying, and when, perhaps, the half dozen friends on board became also a trifle less interesting, amusing, or agreeable. In any case, it is most foolish for any invalid to attempt such a voyage without a physician on board, for these commodities are few and far between on the Nile, being, in fact, only met with at Looxor, 450 miles above Cairo, and at Asswahn, 135 miles further south, I knew a gentleman who, with his son and two daughters, made the ascent from Cairo to Asswahn last winter by *dahabeeyeh*, and arrived at Looxor with the two young ladies in bed with fever, where they had lain for about a week without any proper medical treatment, for the simple reason that there was no medical man to be procured.

There remains, then, for the invalid the pleasure steamer services of Messrs. Thos. Cook and Son, and of the Egyptian Tevfikeeyeh Company, (Messrs. H. Gaze and Son, Agents), both of which employ physicians on their vessels, which are replete with every modern convenience and contrivance for thorough enjoyment, the boats of the former service being capable of affording accommodation for about eighty passengers, and those of the

latter, which are smaller though equally well equipped and comfortable, from twenty to forty passengers. Some people prefer the larger steamers, and others the smaller—*chacun à son goût*. For invalids the smaller ones are decidedly preferable, there being less noise and more attention by the officials on board, besides far less dust and scrambling at those river-side places where donkeys are supplied for excursions to ruins, &c. Small nickel coins of 1, 2, and 5 *millièmes* value, equal respectively to a farthing, a halfpenny, and a penny farthing, are indispensable for employing as *baksheesh* on a Nile journey, as also are helmets or straw hats with *puggarees*, dark-coloured spectacles and fly flappers, for although mosquitoes are rare except when the steamer is moored to the river bank, yet house flies are a positive plague.

These pleasure steamers leave the landing place just above the Kasr-el-Nil bridge in Cairo, at about nine o'clock in the morning, calling at Bedrasheyn about noon, where donkeys, supplied by the village sheik, are in readiness on the shore, to convey passengers to the recumbent colossal statue of Ramses II., the brick and step Pyramids of Sakkahra, the Serapeum, and the Tombs of the Sacred Bulls, which are all that are left to tell of the ancient grandeur of the city of Memphis, which was founded by Mena 7,000 years ago. Side-saddles are supplied by the steamboat companies for ladies, who very quickly acquire the native aptitude for donkey riding, and gallop through the villages and Bedouin encampments, shouting "*yalla*" (go on), "*arraga*" (gee-up), "*hoosh*" (whoa), etc., as though they were bred to the business. Here, at the very first calling place, one at once discovers the value of not having too large a crowd of passengers on the excursion, for the shouting, gesticulating, pushing, and pulling, added to the howls of the donkey boys (who, by-the-bye, are as often full grown men as boys), caused by the frantic and indiscriminate manner in which the dragoman belabours with his buffalo-hide whip the almost naked skins of those who happen to be in his way, all create such a Babel of confusion and such a cloud of dust as frequently to call forth from the passengers expressions that are more forcible and pointed than parliamentary. Then, on the return from the ruins to the steamer, each passenger runs the gauntlet of a screaming rabble of half naked men and boys, selling scarabs, images, coins, parts of mummies, and old papyrus writings, and begging for *baksheesh*, for not only does the donkey boy who runs behind one's donkey expect his *baksheesh* but all his friends

do the same, and this continual howl is kept up by the frantic and yelling crowd, many of them blind, deformed, and hideous, as the steamer pushes off from the bank, until it is no longer possible to throw coins from the vessel to the shore, the native policemen all the while rushing to and fro amongst the crowd vainly be-labouring them with canes.

This is the usual scene at the places of call along the river, and while affording much amusement to the strong and healthy, who, by a free use of the *koorbash* and such words as "*imshi*" (run away), "*bahrah*" (get out of the way), "*mahfeesh*" (no more), etc., manage to keep off the ragged rabble, is a great nuisance to invalids and often prevents them making an excursion.

There is no calling place on the second and third days, except for night anchorage, the steamer continuing its course past that most ancient of all monuments, the Pyramid of Meydooom, or False Pyramid, as it is improperly called, to Beni-Hassan, where, on the morning of the fourth day, donkeys are found on the banks all ready for the excursion to the hill-tombs of Ameni and Knum-Hotep, with their fine proto-doric and lotus columns; after which the voyage is continued to Roda, where a visit is paid to the Khedive's sugar factory, and thence to Assiout, 250 miles south of Cairo, where the night is spent, and the fifth day whiled away in visiting the bazaars and the hills behind the town.

By this time the passengers have begun to try to understand the *modus operandi* of the deck draughts with a view to their avoidance, a task which, owing to the serpentine course of the river, is not an easy one. The steamer travels but slowly on the outward journey owing to the force of the current, which flows at the rate of three miles an hour; and yet the motion is sufficient to cause draughts on board and to keep the temperature very low at times as to necessitate the use of overcoats in mid-day. The average deck shade temperature in November is 53° at 7 a.m., 63° at noon, and 58° after sunset; in December 47°, 68°, and 57°, and in January 50°, 64°, and 56°; but the actual maximum from noon to 3 o'clock, the hottest time of the day, is frequently 80° or 90°. I myself experienced a deck shade temperature of 85° on January 29th, 1895, when at full speed between Assiout and Looxor, of 88° on February 8th when moored to the river side at Looxor, and of 105° on February 19th when at full speed near Asswahn. Immediately after sunset, which, by-the-bye, is a daily sight worth travelling all the way to see, the temperature rapidly

drops so low as to necessitate the use of thick overcoats, and sometimes there is a slight river mist, but never sufficient to cause any inconvenience.

There is plenty to occupy the mind on these days in watching the life on the two banks of the river, some new and strange sight continually gliding past as the steamer ploughs its way southward, mud villages, stately date and dome palms, banana and sugar cane plantations, heavily-laden camels and donkeys; veiled women washing linen in the stream, girls carrying water *goolehs* on their heads, *fellaheen* working *shadoofs* and *sakkeeyehs*, praying on their knees, filling their water skins, or tilling the land; buffaloes bathing in the river, with only their nostrils above the water; heavily freighted cargo *djerms*, native passenger *kangias*, and handsome *dahabeeyehs* silently sailing with the wind or being towed by a long row of scantily attired sailors, the *reis* generally reclining on a rug and enjoying his *kef* or smoking his *chibouque* or *nargheeleh*; and herons, ibises, vultures, and hawks overhead or on the sand banks—all supplying a constantly varying scene for the prevention of *ennui* and for the amusement of those on board.

The sixth day is passed on the river without stopping, except at Belliahna for the night; and on the seventh morning a stoppage is made at Kehneh for a visit to the celebrated potteries, where the *goolehs* are manufactured, after which the river is crossed to Denderah, where donkeys are in readiness to convey the party across the desert to the famous Ptolemaic Temple of Hathor, containing the celebrated zodiac and fine representation of Cleopatra. On the eighth day the vessel proceeds to Looxor, arriving in the forenoon, and here those invalids who intend to remain some time in the place leave the steamer and take up residence at one of the three excellent hotels.

The little town of Looxor lies on the right bank of the Nile, at an elevation of 292 feet above sea level, and has a most delightful climate, the nights being much warmer than on the river and in Cairo. The maximum shade temperature is, as a rule, 94° in November, 77° in December, 83° in January, 86° in February, and 110° in March, though occasionally it rises to 100° in February. The solar radiation, calculated with a vacuum dark bulb thermometer, is 164° in November, 132° in December, 135° in January, 140° in February, and 155° in March. The only fault to be found with the climate is the occasional occurrence of sand storms, which, however, are not nearly so frequent here as on the river. As

this is the most important point on the Nile, a stay of three days is made to enable passengers to visit the celebrated ruins of ancient Thebes, "the hundred-gated" city, consisting of the great Temple of Ammon and the smaller temples of Muth, Khunsu, Mentu, and Osiris-Ptah, with their fine pylons, halls, columns, and obelisks, at Karnak; the Temple of Ammon at Looxor; the two great Colossi; the Tombs of the Kings; the Temple of Ramses I. at Koornah; the Ramseum; the ruins at Medeenet Hahboo; and the beautiful Temple of Hatasoo at Dair-el-Bahree.

The first time I visited Looxor the ground within the temple was some feet deep with the black mud of the river that had been deposited during the last high Nile, but when I revisited the place some weeks later nearly the whole of it had been carried away in baskets, and thrown into the stream by a crowd of small boys and girls, who completed the undertaking before the end of January. This process has to be gone through annually here, and at other places along the river, in order to keep the ruins clear for the inspection of visitors, and is paid for by the 20s. tax levied by the Egyptian Government on all Nile tourists. The mud thus annually deposited is in no way hurtful to health, and consists of a rich mixture of various minerals, capable of yielding to the roots of plants alkalies, phosphates, and soluble silicates, suited to nourish the richest crops. So productive is this soil that seed sown in it in April comes up and ripens in July, before the Nile rises, and that sown in November ripens in March.

There is not much chance of an invalid feeling *ennui* at Looxor, for besides the unparalleled attractions of the surrounding ruins, there is plenty of gaiety in the hotels, which are always filled with visitors during the winter months, and the gardens of which are ablaze with the colour and thick with the foliage of the bougainvillier, lebbek acacia, loofah, mimosa, rose, and palm trees, while the weekly races afford a great deal of amusement, amongst the items being generally Bisharee, Nubian, buffalo, camel, and donkey races; besides which there is good quail and duck shooting in the neighbourhood.

Leaving Looxor on the eleventh day at noon, Esneh is reached about four o'clock, when a short walk is made through the bazaars to the Ptolemaic Hypostyle of Knum, on the columns of which are the most beautiful palm-leaf capitals in Egypt. After making a few purchases of the pretty baskets manufactured here by the natives, the party once more proceeds up the river, spending the

night at El Kab. On the morning of the twelfth day a visit is paid on donkey-back to the Ptolemaic Temple of Horus at Edfoo, the most perfect specimen extant of an Egyptian temple, the fine pylon of which affords a magnificent panoramic view of the little town, the river, and the surrounding desert. The voyage is continued through the narrows of Gebel Silseeleh, across which in olden times an iron chain was stretched to prevent pirate boats descending from Nubia above to Egypt below. Kom Ombos is reached in the evening, and the ruined Ptolemaic double temple, picturesquely situated on the hill overlooking the river, is visited.

The steamer reaches Asswahn, the limit of the journey, early in the morning of the thirteenth day. This is an important military centre, 586 miles from Cairo, beautifully situated at the foot of the first cataract, under the rugged rock of Syene, and exactly opposite the island of Elephantine. It possesses a good hotel, important bazaars, and a climate similar to that of Looxor, but with a temperature 5° higher. The principal attraction is the Cataract, to reach which a camel or donkey ride is necessary across the desert to Shellal, six miles further south on the right bank of the Nile above the rapids, and a few miles below the Tropic of Cancer—the real commencement of the land of crocodiles and the Southern Cross—where boats are taken to the island of Philæ, on which picturesquely stand, amidst the most beautiful scenery in Egypt, the ruins of the Temple of Isis and the smaller temple called Pharaoh's Bed. There is a military railway from Asswahn to Shellal, which may be made use of by those who are not sufficiently strong or who do not care for the long desert ride, but comparatively few avail themselves of it.

Shellal is the starting point for Kalabsha, Abou-Simbel and the Second Cataract above Wahdi Halfa, in small steamers specially constructed for the purpose, but not many invalids make the journey, the most interesting ruins being situated at and below the island of Philæ. There is sometimes, moreover, considerable danger involved in the expedition, owing to the unsettled state of the country above the First Cataract, the government requiring the conductors of all steamers arriving at Korosko, the half way station, to wire to Wahdi Halfa for permission to proceed higher, when, if everything is satisfactory, twelve soldiers are sent down to accompany the vessel to Wahdi Halfa and back, no passengers being permitted to land anywhere *en route* until the hills on either side of the river have been thoroughly searched and pronounced

clear of hostile parties. After watching naked Nubians shooting the rapids astride logs of wood for *baksheesh*, the return journey to Asswahn may be made either by descending the Cataract in boats, or riding again through the desert on camel or donkey back, the former method being perfectly safe and not so fatiguing for invalids as the latter.

On the fifteenth day, the down-stream voyage is commenced, two more nights being spent at Looxor and one at Belliahna, where donkeys are in readiness to convey the party six miles across a fertile country, into the desert, to visit the famous temples of Seti I and Ramses II, and other scattered ruins of the Nekropolis at Abydos; the steamer arriving at Cairo in the evening of the twenty-first day.

It is not well to make the return journey to Cairo very late in March, as there is danger of delay from the steamboat running on sand banks, owing to the increasing shallowness of the river, which commences to rise in July, reaches its height (42 feet in Cairo), in the first week in September, remains at top flood from ten to fifteen days, filling the broad valley for some miles in width, so that the *fellaheen* are obliged to use boats to go from house to house and village to village; slowly recedes again until it becomes so shallow as to permit of being crossed on foot in many places in May; and reaches its lowest point in June. There is also danger, if on the Nile very late in March, of being caught by the hot etesian *khamseen* desert wind, which blows from about the end of March for fifty days, parching everything and producing a horrible feeling of lassitude and loss of appetite.

MALARIA AND ABORTION.

THE *Indian Medical Gazette* reprints a paper read at the recent Indian Medical Congress by Mr. Weatherly (Civil Medical Officer, Kurseong), on the effect of malaria in producing abortion and sterility. He gives the following figures from his own experience. The first number represents confinements at term, the second abortions: England, 56, 2; healthy parts of South Africa, where malaria is unknown, 35, 2; unhealthy parts of Africa, 40, 20; Florida, 30, 22; "India" presumably Kurseong, at the foot of the Himalayas), 60, 28. Mr. Weatherly states that he has observed that "a very much larger proportion of women are sterile in malarial districts than in others, and that if they reside many years this sterility becomes permanent; whereas, if they leave before too long a time has elapsed they bear children."

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Senile Heart: its Symptoms, Sequelæ, and Treatment. By GEORGE WILLIAM BALFOUR, M.D. (St. And.), LL.D. Ed., F.R.C.P.E.; Consulting Physician to the Royal Infirmary, to the Royal Hospital for Sick Children, and to the Royal Public Dispensary, Edinburgh; &c. London: A. & C. Black. 1894. Pp. 300.

WE have studied Dr. Balfour's work with the greatest interest. It is the result of wide experience and careful thought. Treating as it does of morbid conditions whose duration must be reckoned in many cases by years and tens of years, it has been appropriately written by one who had almost completed his half century of professional work. Indeed, we fail to see how a young man could write anything on this subject but a mere compilation of the views of others. In many instances Dr. Balfour traces the progress of his cases for many years.

In addition to the advantage to which we have referred—viz., that of having studied for a long period of time the subject of which he writes, Dr. Balfour possesses the power of putting his ideas into extremely pleasant English; matters are detailed quietly and slowly, and constant reference is made to the cases which the author has observed; at the same time he does not pass over the most modern investigations into the physiology and pathology of the heart—many references are made both to English and foreign writers.

The first chapter is introductory, showing that senile changes are the result of the previous years of life, and that decay is the necessary and final stage of development—in fact it is, so to speak, an expansion of the motto that Dr. Balfour has chosen for his book, "*Nascentes morimur, finisque ab origine pendet.*"

In Chapter II. the normal effects of age upon the heart is discussed. Dr. Balfour holds that in men over sixty a somewhat hypertrophied heart is the rule, and that where this hypertrophy is wanting there must be something amiss to

account for its absence. He then traces out the changes which throw more strain on the heart as age advances, and shows that the essential lesion of the senile heart is a weakened myocardium.

The various manifestations, subjective and objective, whereby this senile heart gives evidence of its condition are traced out in the four following chapters. The symptoms described at length are Præcordial Anxiety, Palpitation, Tremor Cordis, Tachycardia, Bradycardia, Delirium Cordis, and Angina Pectoris. In connection with these, the conditions found on physical examination are in all cases fully described, and the subject is made lucid by the introduction of many illustrative cases.

On many points Dr. Balfour is not content to follow the opinions of others. Thus he holds that in many cases the left auricular appendix reaches the chest wall, and that a systolic murmur heard in the second left interspace a short distance from the sternum is, when perceived, an early and infallible sign of mitral regurgitation. He believes the pain in angina pectoris to be due to an insufficient blood supply to the heart. Insufficient blood supply anywhere may cause severe pain—witness the pain felt in local asphyxia (Raynaud's disease). When a bad bout of irregularity or intermission, induced by mental emotion or any other cause, or when such an increase of muscular exertion as is involved in going up a stair or any acclivity, or when any sudden rise of blood-pressure from reflex causes calls for increased action in a heart with its energy impaired by malnutrition from long-continued spanæmia, by positive obstruction to the coronary circulation, or, as is more frequently the case, by a combination of both, the response may be imperfect. The call for increased action is at once followed by sudden exhaustion, and this is revealed as an agonising pain.

But however one may regard Dr. Balfour's views on this and some similar theoretical subjects, one cannot but feel in reading its pages that the work before us is a storehouse full of clinical observation.

The Concomitants and Sequelæ of the Senile Heart occupy two chapters; these are mainly Gout, Gouty Kidneys, and Glycosuria. The work ends with four chapters on Therapeutics. Exercise, Diet, and Drugs are discussed carefully and at length. With regard to diet four cardinal rules are laid down for those with weak hearts:—

1. There must never be less than five hours between each meal.
2. No solid food is ever to be taken between meals.
3. All those with weak hearts should have their principal meal in the middle of the day.
4. All those with weak hearts should have their meals as dry as possible.

The application of these rules is given at length. We cannot attempt to give any summary of Dr. Balfour's views; our readers must consult "The Senile Heart" for themselves; we feel confident that if they make the experiment they will be glad they have done so.

We must again express our admiration of the extensive experience and prolonged observation which are embodied in this work.

Lunacy Law for Medical Men. By CHARLES MERCIER, M.B.
London: J. & A. Churchill. 1894.

THE author of this little work is already well known for many excellent contributions to various branches of psychiatric literature. The book before us is unpretentious, but is characterised by Dr. Mercier's usual clear grasp of facts and terse mode of expression. In his preface he disarms, or purports to disarm, the criticism of lawyers by the remark that "no one can know the difficulties that medical men find in discovering and applying the lunacy law, so well as a medical man whose daily avocation it is to deal with it." Unless the word discover is used in the sense in which the theologians of the early seventeenth century employed it when they spoke of the "discovery of the goodness of God," and the like, we fear that this sentence will rather rouse than appease the legal profession, for surely, to *discover* the law, to show that when it says black it means white, or that when it says grey, Snooks, C.J., has laid down that it signifies scarlet, surely all this is just the business of the lawyer, just the ground which he resents poaching on. But probably Dr. Mercier is really thinking of uncovering, and has in his mind the revelation of the many snares and pitfalls which the law has set for the footsteps of the unwary doctor. No one more needs a lantern to his feet than the medical man who has to deal with lunatics. Of late years, in England, the law has become so complicated, and

the danger of infringing it so considerable, that many medical men will not risk the losses that may result from signing certificates, and decline this duty altogether.

Dr. Mercier deals with the three occasions on which the medical practitioner is brought into contact with the law in relation to lunatics—viz., the management of an insane patient, and the giving of evidence with regard to testamentary capacity, and with regard to criminal responsibility. The first of these occupies the greater portion of the book, and forms a careful exposition of the modern English law as to the modes of placing a patient under care, and the duties of those having charge. We can strongly commend Dr. Mercier's remarks upon the methods which should be adopted in preparing a lunacy certificate. There are few things in which the generality of medical men blunder more readily. In Ireland, where the law about certificates is not so strict as in England and Scotland, the looseness with which medical certificates are worded is almost incredible, and makes one sure that the signatories cannot realise how important is the nature of such documents.

Dr. Mercier says, in reference to certain common artifices which must be considered as generally very injudicious, "a practitioner who is called in to examine a patient with a view to certification, should never on any account stoop to subterfuge, often and urgently as he may be begged to do so by the friends of the patient. He should insist on being introduced to the patient as a medical man, and should at once, if asked, state the purpose of his visit. Any other course is dishonest, derogatory, and likely to be disastrous." Dr. Blandford has already expressed a similar opinion, but he so far concedes to the frailty of human nature, as to make an exception in the case of a lunatic who may be armed with a loaded revolver carried for the purpose of shooting doctors who may wish to certify for him. Practically, the difficulty usually is that the lunatic whose apprehensions are to be allayed, at once sees through the manoeuvre, and the last state of that man as regards reticence and suspicion is worse than the first.

Surely some very suspicious paranoïac must have originated the notion which has been incorporated with the law in most if not all English-speaking countries, and which lawyers generally look upon as the very precious palladium of the liberties of the insane, that the physicians who certify to a man's insanity must

see him separately. Some kind of mystified and confused idea of an entirely independent opinion, formed at an entirely different date, and resting upon entirely fresh data, seems to have been running in the head of those who first framed this enactment. They probably thought that two doctors could examine a supposed lunatic at different times, just as two chemists might examine water taken from the same well at different dates and without any knowledge of each other's proceedings. But insanity is not quite as simple a problem as a chemical analysis, and very many cases do not admit of the very leisurely treatment which the law loves. The practice at present commonly works out thus:—When one medical practitioner walks out of the patient's bedroom and closes the door, the other opens the door and walks in; if anything remains to be discussed, the consultation is held in the parlour when the second doctor comes out. We do not make the laws, and till we do we must submit, like *Æsop's lion*, to be depicted as the law-makers choose; but admitting that doctors are all rogues, who have some sufficient motive for sending sane people to an asylum, how does the present state of the law protect anyone? Surely a consultation at the patient's bed side, while it affords special facilities for the avoidance of mistakes in diagnosis, furnishes no particular opportunities for dishonesty—rather the reverse, we should say. A man will be more likely to be careless or dishonest if he is alone than if he has the skilled eyes of a professional brother upon him. It was wondered of old how two augurs could ever meet without laughing in each other's faces, but the veriest mountebank can maintain a grave face when he is figuring before people who do not know how the trick is done.

However, Dr. Mercier does not entangle himself in these questions. His business is merely with the law as it stands, and he gives excellent practical instruction as to how legal requirements can be met.

In dealing with the question of testamentary capacity, our author quotes John Stuart Mill who talks of "that extraordinary want of knowledge of human nature and life which continually astonishes us in English lawyers." Dr. Mercier does not agree with the general drift of Mill's argument, nor do we with this particular expression. It is not that the lawyer shows an ignorance of human life, but that the rules of his craft compel him to ignore human and biological considerations. Definition,

precedent—the hard and fast rule which is applicable to every case—such are the materials in which he works. He generally fails absurdly in dealing with medical subjects, but that is because he applies technical rules, excellent in themselves, no doubt, to matters in which his technique does not run. English law is slower than any other to change its methods, but the peculiarity above noted is not at all distinctive of English lawyers, and has been noted by satirists of the law in all ages. It is not due to ignorance of nature but to the over-mastering prejudices of art.

In discussing criminal responsibility, Dr. Mercier lays down excellent rules for the conduct of the medical witness. Wisely, in this little work which is intended only as a brief guide, he goes but a short way into the inextricable jungle of incoherent precedents and contradictory judicial decisions which seems to constitute British law on this point. He prudently prepares the medical witness for the judge who will refuse to listen to opinions, and the judge who will refuse to listen to facts; for the judge who thinks that the question is, did the prisoner know what he was doing, and the judge who thinks that the question is, could he avoid doing it.

The earlier part of this excellent little book deals chiefly with the provisions of the English Lunacy Acts. The latter portions, treating of testamentary capacity and criminal responsibility, apply to all parts of the United Kingdom.

We hope to see the second edition provided with a table of contents, the want of which is felt in this edition though there a good index.

The Lunacy Regulation (Ireland) Act, with Forms; and the County Court Act and Rules. Second Edition. Containing a Synopsis of the Law as to Establishments for the Insane. By J. M. COLLES, LL.D., Registrar in Lunacy. N.d. Magee, Dublin.

THE first edition of this work dealt only with the Acts which give the book its name. The present edition aims, as the author modestly says, at supplying appropriate references upon all topics of importance as regards Lunacy Administration. "It would be impossible to compress within convenient limits a complete statement of the law as regards Lunacy Administration in Ireland:"

but experience “seems to show that a general knowledge of the law on the subject might, with advantage to Asylum Administration, be rendered more easily attainable by those practically interested in such administration.”

In other words, the numerous, ill-considered, and imperfect Acts relating to Lunacy in Ireland have never before been studied, compared, and digested. The publication of this work is, therefore, of much importance, not only as furnishing the digest much needed by those whose practice brings them into relation with lunatics, but also as perhaps supplying materials for working out the new and perfect Irish Lunacy Act which we have been so long promised, and which hopeful spirits expect to see coming in company with the cocklicranes.

Till this consummation is arrived at, Dr. Colles's book will remain of value as the only text-book of Lunacy Law with regard to Ireland, and we confidently expect that further editions will from time to time appear, and will contain always fuller treatment of the many statutes now necessarily rather summarily dealt with. Meanwhile the practitioner in lunacy can hardly do without the present edition. Nowhere else will he find the information he wants, and the arrangement of this information is admirable.

Dr. Colles's interest in the insane has been well shown by the energy which has characterised the administration of the Chancery Lunacy Department since he became Registrar. Perhaps he has derived from his name some medical instincts. Physicians who work among the insane are as little accustomed to recognition in high places as they are to gratitude among their patients. They will be the more pleased with the following acknowledgment of their services, since it comes from one who has had peculiar opportunities of judging of their work, and who cannot be supposed to be professionally prejudiced in favour of doctors:—

Dr. Colles says:—“The great reforms of the last half-century, be it said—reforms which have converted the condition of the ‘idiot or lunatic’ from that of a caged wild beast to that of a hospital patient needing more than ordinary comfort and attention—originated from within: it is not to interference or pressure on the part of the State that they owe their inception, but to the labour and devotion of medical specialists, themselves engaged in the practical management of asylums. Nevertheless, asylum administration cannot fail to benefit from increased interest and more accurate information on the part of the public; and an enlightened

public opinion, strengthening the hands of those immediately responsible, can do much to speed the work of making asylum management in general keep pace with the forward movement."

Since the days of Pinel and Chiarrugi, the physician has everywhere been the pioneer in the improvement of the condition of the insane, but no doubt he has nowhere had such difficulties as in Ireland. The weight of official apathy and inertia, the cruel and heartless indifference of the general public (very singular in a race generally supposed to be kindly and warm-hearted), have offered impediments to advance probably unequalled elsewhere. But there have been difficulties of every sort; too much power has been left in the hands of central bodies, who have been afraid to use it, and the local bodies in charge of asylums have been hampered in a way that has deadened the interest they might otherwise have been induced to take in the administration of those institutions. The medical superintendents of public asylums have rarely belonged either to the social "set" who influence bureaux, or to the class who can make themselves troublesome locally. They have, accordingly, had to labour as best they could almost entirely without support, and had often to contend against great odds in their efforts for reform. It is pleasant to find that these efforts seem at length to be recognised.

In the work before us, the Lunacy Regulation Act and the County Court Jurisdiction in Lunacy Act are given in full, together with the General Orders and Rules made under each, respectively, and illustrative notes and references to cases. This part of the book is invaluable to lawyers having practice "in Lunacy," and to the physician who has to do with private asylums or with Chancery patients. Among the General Orders under the Lunacy Regulation Act we note one dating as far back as June, 1892, appointing two lady visitors to visit such patients as the Chancellor may direct in the City or County of Dublin. We believe that the Irish Chancery leads in this departure. The kindly and humane idea, no doubt, originated with the Registrar that a visit from a person of her own sex would often be beneficial and pleasant to the unfortunate female lunatic, who perhaps would otherwise see no strangers except the medical visitors.

The abstract of statutes relating to establishments for the reception and care of the insane also contains many useful notes and references to important cases, which are thoroughly up to date.

Dr. Colles incidentally draws attention to some glaring defects in the provision for the insane in Ireland—to the absence of middle-class accommodation, to the inconveniences of the "Dangerous Lunatics" Act, to the deficiency of any provision for the care and training of imbecile children, "for whom," as he very neatly says, "the District Asylum and the Union Workhouse offer a choice of eminently unsuitable refuges," and to the "unsatisfactory" treatment and care of lunatics in Workhouses in Ireland. By the way, the confinement of lunatics in Irish Workhouses seems to be generally quite unwarranted by law.

This book has an excellent index, a table of contents, a table of references, and a table of cases referred to. These business-like arrangements add considerably to its usefulness.

The Evolution of Diseases of Women. By W. BALLS-HEADLEY, M.A., M.D., Cantab., F.R.C.P. (Lond.) London: Smith, Elder, & Co. 1894. 8vo. Pp. 375.

WE confess ourselves entirely at a loss to discover why this book has been written.

Partly social, and partly gynæcological in its scope, it deals with each subject in an incomplete and often quite absurd manner.

This curious combination we have never before seen included in one volume, and we cannot think the present work is likely to make popular the combining diseases of women with a study which has up to this been largely in the hands of a certain class of modern novelists.

The first three chapters consist largely of stale platitudes, and illogical conclusions founded on premises not in themselves correct, but we must admit that at times the author becomes startlingly original.

Dr. Balls-Headley believes that the normal sexual appetite in both male and female demands satisfaction, and the organism suffers when this demand is not satisfied. This appetite, therefore, should be brought into use so soon as it develops. He thinks that we are entirely wrong in refusing to be taught in this particular by savage tribes and the lower animals. "Among native races marriage occurs at the time of puberty, and they propagate apparently without undue difficulty." Has the physical development and mental calibre of the native races of Australia furnished the author with the brilliant idea of following their example?

We are also curious to know on what precise grounds the belief in the easy parturition of savages is based. The author confesses that our present system of the "selection of the fittest has resulted in a race of women of such extraordinary physical growth and beauty as has probably never before existed." Admitting the truth of this statement, surely a strong argument is furnished in favour of the present system of deferred marriages.

The author, however, is of opinion that in spite of this superb physical growth, the "sexual growth is liable to be so affected by mental culture, mode of dress, and delayed or non-marriage, that never before were uterine abnormalities of development, disease, and difficulty in parturition so prevalent." The author cannot prove that any of these statements are true; for our part, we do not believe that any peculiarity of dress can produce an evolutionary effect on the generative organs of future generations, any more than that circumcision can bring about any permanent diminution in the length of the Jewish prepuce at birth.

It is also impossible to form any comparison between the prevalence of uterine complaints now and formerly. As gynecology becomes more perfect diseases become apparently more numerous, and unless we are content to receive the statements of our grandmothers as a scientific basis from which to draw conclusions, all comparison between past and present must prove futile.

For similar reasons, we confess ourselves incompetent to judge as to the greater difficulty in parturition at the present day. We know, however, that the author is wrong in his statement that one in nine hospital patients require forceps. There is a considerable difference between the frequency of their application and the frequency in their need of application. Thus, in the Rotunda Hospital, forceps are applied once in about fifty cases, and patients certainly are not injured there by their infrequent application.

The author thinks a woman is justified in demanding the right of "transmitting to children those qualities which have gradually evolved in her during myriads of generations." He does not say from whom she is to demand it, nor would he apparently deny gratification of the "natural appetite" to those who are unsuitable subjects for the propagation of healthy offspring.

As regards the gynecological portion of the work there does not appear to us to be any thing fresh, or much up-to-date information, what is told us is not bad, and the omissions are certainly

more glaring than the commissions. The author throughout his work strains the meaning of the word Evolution, and thus the title of the book is apt to mislead those who have not read it.

"Our Teeth, Care and Preservation." By VOOGHT DITCHAM, M.D., D.D.S., L.D.S. London: Baillière, Tindall & Cox. 1895.

THE author would appear to have published this small pocket manual with the object of bringing before the public some sound advice, in a readable form, concerning their teeth; he claims twenty years' experience as a dentist for his ability to discuss his points. Speaking of patients who are of excessive nervous irritability, Mr. Ditcham says: "nerves of the teeth (in these) are so sensitive . . . that when exposed to the air an almost intolerable pain results"—there appears some ambiguity here: are we to understand exposure of the teeth or the nerves themselves to the air? If the latter, surely in the healthiest individual severe pain would ensue under such conditions. The imperfect dental apparatus as a prime factor in the ætiology of dyspepsia is strongly enforced, "nine out of ten such cases," says the author, "are primarily due to imperfect preparation of food in the mouth, due to a bad state of the teeth." In a few pages "*Care and Preservation of the Teeth*" is dealt with; another section—one which seems to us superfluous in this book—deals with the "*Treatment of Decay*." The binding and general get up of the *brochure* is good, and it should prove of utility to anyone who is in need of the services of a dentist.

The Schott Methods of the Treatment of Chronic Diseases of the Heart, with an Account of the Nauheim Baths and of the Therapeutic Exercises. Illustrated. By W. BEZLY THORNE, M.D., M.R.C.P. London: J. & A. Churchill, 11 New Burlington-street. 1895. 8vo. Pp. 80.

THERE have been many new departures from the hum-drum beaten track of medical routine practice. Some—taking a simile from the old flint gun—were a flash in the pan. Some have taught us great truths and enlarged our experience. Some, after a more or less fierce struggle for existence, have taken their place, as recognised medical treatment. Among the latter,

we have no doubt, that the Schott movements for chronic heart disease will take a prominent and permanent position.

The baths at Nauheim have been celebrated for many years in the treatment of heart disease; and the ritual of the course has been perfected by the two distinguished brothers, Schott of Nauheim.

Having for many years treated thousands of cases of disease by the baths alone, Doctor Schott observed that certain movements had a distinct reaction on the circulation independent and different from the reaction of the mineral waters and also from massage. By careful observation he found that some movements were beneficial, some harmful.

The first great step was taken when Dr. Schott put forward the formula—"Certain movements have an action on the heart which may be valuable as a diagnostic between a heart dilated as to its walls, and enlargement due to an exudation into the pericardium."

When the area of dulness over the heart region was due to an exudation, movements made no difference; on the contrary, if due to a dilated heart, the area of dulness diminished in a most remarkable way.

The step from diagnostic to therapeutic was quickly taken. This is the step that we are interested in. As Dr. Schott says—"the few (though counted by hundreds) can go to Nauheim; the many (counted by thousands) must stay at home."

The Schott movements can be done, and well done, at home. Any good masseur or masseuse can learn the "movements."

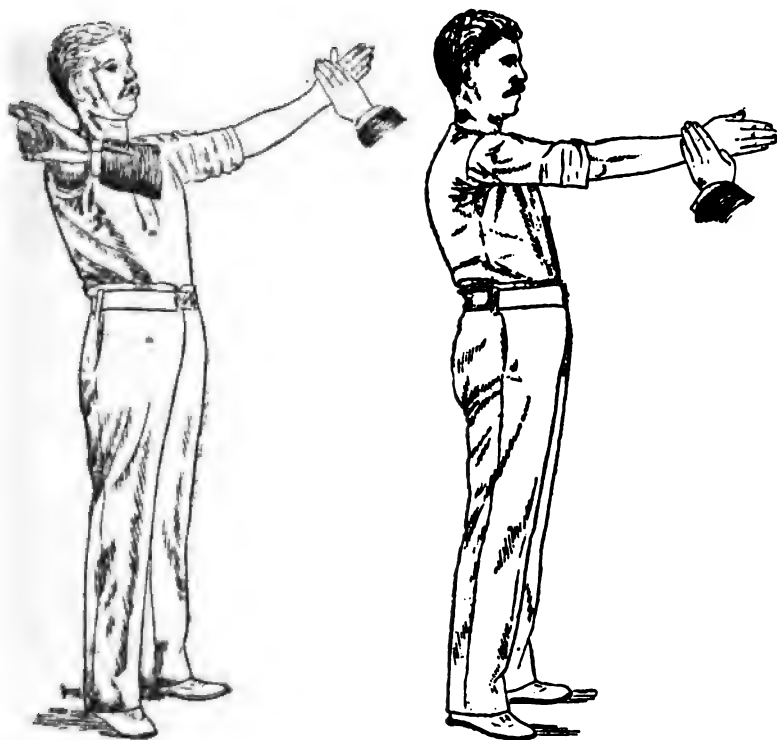
We do not wish to be misunderstood as to the value and importance of the baths of Nauheim or of the various and valuable lines of treatment that are to be found in medical science. We do wish to call the attention of the profession to the importance of these "Schott movements" in their daily practice. We have seen a patient who could not travel, so far improve under this treatment that the journey to Nauheim was accomplished without difficulty. This case—an extreme one—is now recovered. Other cases—unable to do the ordinary duties of life—have been enabled to return to work and enjoy life without going to Nauheim.

A very celebrated bath doctor once said when asked how it was that the natural mineral waters differed from the artificial—"You can analyse a flower, you can break it up into its con-

stituents, but you cannot put them together; it is so with the waters." This may be a little Teutonic flower of speech! The fact remains—however explained—artificial mineral waters differ from the natural springs in their action.

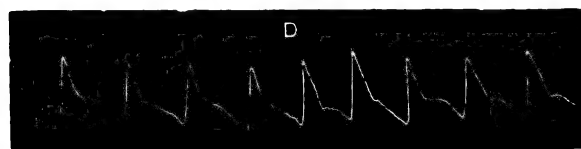
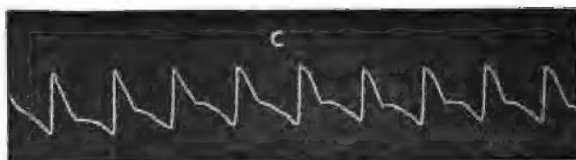
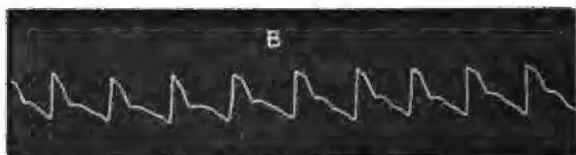
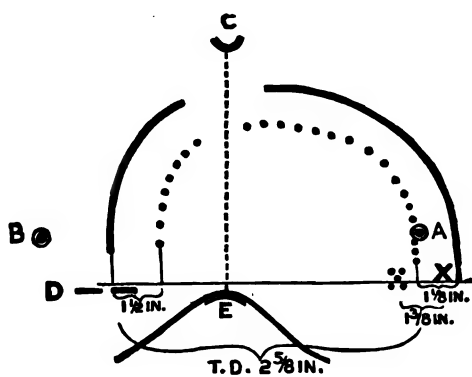
We wish to call the attention of the profession to Dr. Bezly Thorne's book on this subject. It is well brought out by J. & A. Churchill, printed in type that it is a pleasure to read. It is illustrated to perfection.

A series of well done woodcuts, nineteen in number, show the various stages of the "mechanical details of these wonder-working movements," page 61. We reproduce two of them here.



There are also a series of the tracings of the sphygmograph, The areas of dulness taken before and after the movements: X gives the area before, ∴ after twenty minutes.

This book is a hand-book to the new Schott treatment, and should be read and studied by every medical man.



The directions assisted by the woodcuts, are clear and distinct; at the same time the book teaches caution. Though the benefits are great, the dangers are great also. Dr. Bezly Thorne, p. 62—points out the importance of medical supervision. —“In all such respects it devolves on the medical adviser to instruct the operator. The time to be occupied by the several movements, the duration of the interval of rest and the measure of resistance to be offered, are points on which his judgment should be expressed. For that reason he should always be present,” &c.

We are glad to see in the May Number of the *Practitioner* that Sir William Broadbent has given the sanction of his name to the Schott treatment. Sir William very clearly points out that Oertel treatment differs from the Schott, “not simply in method but in principle,” p. 395.

Dr. Schott's method is new. It is a new departure, and we have no hesitation in asserting, it is an addition to our forces, in our great struggle with disease, “that has come to stay.”

The Extra Pharmacopœia. By WILLIAM MARTINDALE, F.C.S., &c. Medical References and a Therapeutic Index of Diseases and Symptoms. By W. WYNN WESTCOTT, M.B., Lond., Coroner for North-East London. Eighth Edition. London: H. K. Lewis. 1895. Med. 24mo. Pp. 584.

THIS indispensable *vade-mecum* of the busy practitioner is falling into flesh as it grows in years. The present, or eighth edition, runs to 584 pages compared with only 524 in the seventh edition. We are bound to admit that the additional matter is important, and could not have been omitted. We are, however, not so sure that a freer use of the pruning hook so far as the old matter in the book is concerned, would not have been judicious and expedient. Only 30 pages of old matter have been struck out, while 110 pages of new matter have been added. In the past, an attractive feature of the “*Extra Pharmacopœia*,” has been its small size and convenient shape, which made it so handy of reference and so portable. It threatens to become too bulky to be carried about by one with comfort. *Verbum sat sapienti!*—and Mr. Martindale is a wise man.

The eighth edition opens with some very instructive and interesting notes on the approaching decennial revision of the

British Pharmacopœia, in which Mr. Martindale has very appropriately been asked to take part. Through the analysis of 25,500 prescriptions recently dispensed in Great Britain and Ireland and in the Colonies, the authors have compiled lists of unofficial preparations which seem to require admission to the pharmacopœia, and of official preparations which, not being in demand, might be deleted. A special chapter has been inserted (at page 446) on Antitoxins, Serums, and Lymph, and on Animal Glands and Tissues and their preparations. This is a very significant addition to the work. Its value is enhanced by copious references to authorities—in this individual case certainly useful, perhaps necessary. We think, however, that throughout the book much economy of space would have been secured had the authors replaced the very numerous bibliographical references which abound on every page, by a brief original summary of the therapeutical results already obtained in medical and surgical practice.

Recent investigations in connection with anæsthetics, antipyretics, and antiseptics all receive due notice. Under the last heading we would point out the great care which has been devoted to the subject of internal medication by antiseptics. "Phenol, Naphthol, and Salicylic compounds have been in request, especially in combination with Bismuth, for intestinal antiseptics, while those of Creasote and Guaiacol have been much used for phthisis." From the list of antiseptics described in the work, we are surprised to note the omission of Thiocamf, that curious compound of sulphurous acid and camphor, discovered by Professor Emerson Reynolds, of the University of Dublin, some years ago. In Dublin, at all events, we are now thoroughly familiar with the valuable properties of this agent, whether used as an aërial or as an intestinal antiseptic and disinfectant.

The authors allude to the internal administration of petroleum, which is now attracting a good deal of attention, and at page 331 they give an elegant formula for its emulsion in combination with the hypophosphites of sodium and calcium.

We should not omit to mention that in the very forefront of the book there are three most valuable "lists." These are—first, a list of the Unofficial Formulary (1894) of the British Pharmaceutical Conference (B. P. C.); next, a list of the additions made by the Supplement of 1895 to the *Pharmacopée française*

(The French Codex), 1884; thirdly, a list of the additions made by the Supplement of 1895 to the Pharmacopœa germanica, Editio III., 1890.

King's College Hospital Reports. Edited by N. TIRARD, M.D., W. W. CHEYNE, F.R.C.S., J. PHILLIPS, M.D., and W. D. HALIBURTON, M.D., F.R.S. Vol. I. London: Adlaird and Son. 1895. Pp. 402.

FOLLOWING the example of several of the other London hospitals, the Medical Staff of King's College Medical School and Hospital have published the work before us, the first volume of their Annual Reports. The contents are both interesting and instructive, and the book is printed and published in first-class style.

The papers printed include one by Dr. Duffin, pleading for a more general employment of bleeding and leeching; Dr. White discusses the relation of the medical practitioner to lunacy cases; Dr. Silk gives hints on anæsthetics; Mr. M'Hardy writes a careful paper on the artificial maturation of immature senile cataract by trituration; Dr. Phillips discusses pelvic suppuration in the female.

There are reports from the various departments of the hospital, medical, surgical, gynæcological, pathological, &c.; in these a number of cases of interest are related at some length.

The editors deserve every credit for this excellent report of the work done in King's College Hospital.

A Handbook of Diseases of the Eye, and their Treatment. By HENRY R. SWANZY, F.R.C.S.I. Fifth Edition, with Illustrations. Edited under supervision of the author by LOUIS WERNER, M.B. London: H. K. Lewis. 1895.

THE fourth edition of this work was published in 1892, and was then criticised in this Journal. It is not therefore necessary to go much into detail in dealing with the present issue.

In this edition the author has kept in view the same end as in the previous ones—viz., the providing of a succinct account of the present state of our knowledge of Diseases of the Eye, and of the most approved methods for their treatment.

We congratulate Dr. Louis Werner, on whom the main portion

of the labour connected with the production of this edition fell, upon the manner in which he has done his part, under the author's supervision. The book is larger by 44 pages, and amongst the additions may be mentioned: descriptions of the astigmometer and its use, and of the effects of electric light on the eyes, of scintillating scotoma, of ophthalmia nodosa, and of enophthalmos. The articles on tubercle of the iris and on tumours of the optic nerve have been rewritten. Five new figures have been introduced.

We consider this the best handbook of its size at present obtainable in the English language.

STRICTURE.

THE following pathetic verses were quoted from Erichsen's "Medical Rhymes" by Dr. S. G. Gant, of Kansas City, in a paper read before the Mississippi Valley Medical Society, reported in the *Journal of the American Medical Association*. They are said to have been composed by a patient undergoing treatment for stricture, and left on his physician's desk:—

"When sorrow's cloud is cast athwart
The sunshine of my mind,
When I, with gloomy care distraught,
No recreation find;
When sighing o'er my helpless lot,
And what I used to be,
I'll seek some quiet, tranquil spot
And pass a small bougie.

"Let strictures on my conduct pass;
Unnoticed let them be;
A stricture somewhere else, alas!
Is more deplored by me.
In hope this blight on manhood's bloom
I yet effaced may see,
I'll hie me to my quiet room,
And pass a small bougie."

THE ATLANTIC MEDICAL WEEKLY.

PROVIDENCE (R.I.) is the birthplace of this "Journal of Reform and Progress in the Medical Sciences." The contents of the number before us are of the usual character and quite up to the average in interest and value. One of the editorials argues against the proposed repeal of the Compulsory Vaccination Acts. Some very significant figures are given. *Before* "general gratuitous vaccination and compulsory vaccination of school children," in the fifteen years 1863-'77, the average mortality from small-pox was 46, in an average population of 220,186. *After*: 1878-'92, the averages were 5.3 and 308,774. Our lively contemporary has a heading "Fun," and reprints two jokes—but we forbear to quote.

THE LUCAN DAIRY PROCESS

For the Sterilization and Filtration of Milk.

THE paramount importance to everyone of avoiding contaminated milk, especially at times like this, when an epidemic is present in the city, is my reason for calling your attention to the above subject.

In 1893 I undertook to supply to the public

Pure Milk in Clean Vessels from Healthy Cows.

In order to fulfil these conditions I adopted elaborate precautions, of which I now give a brief *resumé*.

- Cows.** Entirely grass fed in summer. Carefully housed, partly grass-fed, and regularly exercised in winter. Inspected at short intervals by experienced V.S.
- Vessels.** Scalded thoroughly by super-heated steam. Lids cleansed by same method. Water used for washing certified by analysis to be safe.
- Employees.** Regularly inspected by a Fellow of the Royal College of Surgeons. Suspended from duty on slightest complaint of illness.
- Milk.** No foreign substance added. Samples frequently taken from our shops and carts by trustworthy inspectors, so as to check all possible adulteration.
- Sterilization and Filtration.** (Patent Process.) Effected by passing the milk through a complicated series of filters, the efficiency of which is evidenced by the removal of all sediment from the milk. Then by subjecting the milk to the action of a sterilizer, it is rendered absolutely free from contamination.

R. G. NASH,

24 Parkgate-street, Dublin.

The fact that Mr. Ernest Hart has published reports of no less than 74 epidemics of disease, afflicting 5,044 persons, and caused by pollution of milk, ought to prove, even to the most sceptical, that in drinking carelessly-collected unsterilized milk they run a very serious risk.—*See Brit. Med. Jour., Sept., 1894.*

THE REPORT OF THE EMINENT BACTERIOLOGIST

Dr. EDMOND J. M'WEENEY, M.A.,

Professor of Pathology, University Medical School, and Pathologist to the Mater Misericordia Hospital, Dublin.

"To the Manager, Lucan Dairy.

"I have frequently and carefully examined the process of sterilization by heat and filtration to which the milk of the LUCAN DAIRY is subjected under Nash's patent process; and I have personally collected many samples of the milk and made a bacteriological examination of them. The process used is **perfectly harmless**, no foreign substance is added, and the **nutritive value of the milk is not in the slightest degree impaired**, while the objectionable sediment, which exists to a greater or lesser degree in all milk, is altogether eliminated. The keeping properties of the milk are greatly increased by the process of filtering and sterilization. Coupled as it is with the periodic medical inspection of your employees, and the carefully enforced veterinary examination of your dairy cattle, I consider that your system of dairy supply could hardly be improved upon in point of efficiency and safety.

"EDMOND J. M'WEENEY, M.D., &c.

"27th August, 1894."

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.

General Secretary—WILLIAM THOMSON, F.R.C.S.I.

SECTION OF MEDICINE.

President—WALTER G. SMITH, M.D., President of the Royal College of Physicians of Ireland.

Sectional Secretary—A. N. MONTGOMERY, M.R.C.P.I.

Friday, January 11, 1895.

The PRESIDENT in the Chair.

Case of Locomotor Ataxia from Injury.

DR. CRAIG exhibited the patient and read a short paper on "Locomotor Ataxia due to Injury." A year ago the man fell while revolving on a horizontal bar, and lost consciousness for about twenty minutes. Although the injury seemed slight, yet within a few months his arms and legs were markedly ataxic, cutaneous sensibility was lost in the limbs and, to a less degree, in the trunk, the knee-jerk was gone, gastric and rectal crises were complained of, but no ocular symptoms appeared. In the absence of cerebral or ocular symptoms, and with a history of the rapid appearance of other symptoms, could the case be called one of true locomotor ataxia?

The PRESIDENT said that this was a case in which the term locomotor ataxia was applied in a clinical rather than a pathological sense. It is hard to bring it into line with those cases commencing with affections of the cerebral nerves. The ordinary forms are cerebro-spinal, but in this case all the symptoms are spinal.

DR. FINNY remarked on the rapid loss of sensation which happened in this case. One might suppose it to be a change in the posterior columns

of the cord also involving the posterior nerve roots. He thought that the wasting of the muscles was out of proportion to the length of time that the man had not used them.

DR. PARSONS said that the patient seemed to be going the round of the Dublin hospitals. Some of his symptoms might perhaps be functional rather than organic. He knew what ones he should have. However, there was no doubt he had marked inco-ordination.

Dr. CRAIG briefly replied, stating he agreed with the President as to the difficulty of regarding this case as an ordinary one of locomotor ataxia.

Small-pox.

DR. O'CARROLL read a paper on the diagnosis and prognosis of small-pox. [It will be found at page 225.]

Some Small-pox Temperatures.

DR. H. C. DRURY exhibited a series of temperature charts of variola cases. He divided them into three classes—1. Those with primary and distinct secondary fever. 2. Those in which the initial fever was continued into a period of febrile state, of longer or shorter duration, but without any distinctive character. And 3. Those in which the high initial temperature, lasting three or four days, was the only one seen.

He pointed out that, from a large number of observations he was unable to draw any conclusions from the temperature as to the severity of the rash, general symptoms, or length of time till convalescence was complete, as all three classes of temperature were seen in unvaccinated as well as vaccinated cases, mild and exceedingly severe or even fatal cases, or cases in which the rash was confluent or discreet, copious or slight in amount, also in cases that could be considered free from infection in three weeks, or in others that would require from two to three months.

DR. TWEEDY said he thought that a good many cases of small-pox were passed off as chicken-pox. He had seen a child aged 7 years covered with a discrete vesicular eruption, and of which most of the vesicles were umbilicated. He was told that there were several children in a neighbouring house who had been similarly affected and had run about all the time. He was in doubt as to whether it was a case of variola or varicella, but concluded that it was the former and sent his case to hospital.

DR. BURGESS said that in 1887 he was asked to see a case which another doctor first considered to be rheumatic fever and then scarlatina. When he saw it he could not make up his mind what it was, but he waited for a couple of days and by that time there was a distinct rash. This was the first case of the epidemic of 1887.

DR. DAY said that in the early diagnosis between small-pox and chicken-pox the eruption on the throat was an important point. In the former a papule might be present on the soft or hard palate or on the tongue. In chicken-pox it was a vesicle. A woman had been treated in Cork-street for small-pox who was six months pregnant and yet did not abort. Several children were treated for both scarlatina and small-pox at the same time. The acute cases of scarlatina seemed to have escaped. He said he believed that chicken-pox occurred in adults and also that the vesicles were umbilicated.

DR. HORNE said that he did not see why a patient suffering from small-pox should be any more liable to abortion than when suffering from any other fever. It was all a matter of temperature. Provided this did not exceed 104° the danger of abortion was not greater than in the other fevers. He thought that the eruption on the throat was a very important point in the diagnosis at an early stage. He would like to ask Dr. O'Carroll whether any children under ten years of age had been admitted to the Hardwicke, suffering from small-pox.

DR. PARSONS mentioned three cases. The first was that of a woman who had been treated for scarlatina in Cork-street, and on recovery had been sent to one of the convalescent homes. Three days afterwards she fell ill again, and shortly after the eruption of small-pox appeared. Another was that of a little unvaccinated child who one morning was noticed to have a papular eruption on its body. The nurse stated that the child seemed quite well on the previous day. He had considerable difficulty in deciding whether it was a case of chicken-pox or small-pox, but the abundance of the rash and the rise of temperature decided him in favour of the latter. The third case was that of a man who walked into the dispensary. He had been feeling unwell for three or four days, but did not give up work. He had a well-marked papular eruption, but no rise of temperature, and affirmed that he now felt quite well. He had not been revaccinated, but had three distinct old marks.

DR. J. W. MOORE said that the way the eruption appears in varicella is important. Very often there is no papule, but within a few hours a clear vesicle appears on the skin. He mentioned a case of scarlatina which developed chicken-pox.

DR. A. N. MONTGOMERY said he was pleased to hear that no well revaccinated case had been admitted to Cork-street Hospital suffering from small-pox. He said that although the vesicle in a revaccinated person might, sometimes on the 8th day, resemble a primary vesicle, yet the material obtained from it should not be used for the purpose of vaccination or revaccination. As showing the necessity of a very careful search for vaccination cicatrices being made in patients suffering from modified small-pox, before they were recorded as unvaccinated, he alluded to such a case which had come under his notice some years ago, in which

he had found a well-marked vaccination cicatrix on the posterior aspect of the arm, which had been overlooked.

The PRESIDENT said that the difficulties of the diagnosis between variola and varicella were perhaps exaggerated. He also said that it was quite well established that the vesicles of chicken-pox were multilocular and were often umbilicated. The greater frequency of umbilication in variola depended on, first, the less acuity of the pathological process; and, secondly, because the epithelial cells were œdematous and underwent what was described as a "ballooning degeneration." They became distended and the nuclei were broken up.

DR. O'CARROLL, in reply to Dr. Horne's question, said that several cases of children under ten years of age had been admitted to the Hardwicke, but that none of the vaccinated ones had died. All the people connected with the hospital had been revaccinated at the commencement of the epidemic, but 4 months afterwards a laundry maid on whom the vaccination had caused a sore arm, was admitted to the wards suffering from a rash he regarded as that of small-pox.

DR. DRURY having replied,

The Section then adjourned.

SECTION OF STATE MEDICINE.

President—D. EDGAR FLINN, F.R.C.S.I.

Sectional Secretary—NINIAN FALKNER, F.R.C.P.I.

Friday, February 1, 1895.

The PRESIDENT in the Chair.

Domestic Treatment of the Insane.

DR. CONOLLY NORMAN read a paper on the domestic care of the insane. After glancing briefly at the system adopted at Gheel and in Scotland, which had formed the subject of a paper read by him in this Section some years ago, he referred at length to the insane colony at Lierneux, in Belgium, to the boarding out of lunatics as carried out in the Berlin district (which he thought much superior to the Scotch system), and to the recent and singularly successful experiment at Dun-le-Roi, in Berry. He held that these various attempts in various countries to provide for the insane outside asylums had been, on the whole, a great success. He believed that in Ireland an energetic and intelligent endeavour to organise the domestic care of the insane would be similarly successful.

DR. ROCHE said that if the experiment of boarding out pauper lunatics was to be tried it could not be tried in a better place than in Ireland. The

boarding out of pauper children had already proved a great success. The poor people had the reputation of being exceedingly kind to the young and to the afflicted. He thought, on the other hand, that if the patients were badly treated they would be afraid to complain to the inspectors.

DR. THOMPSON remarked that as far as his experience in workhouses went, he found the healthy inmates very cruel to the insane. If a patient was fit to be sent to the healthy yard they drove him to madness again.

DR. DONNELLY said that Dr. Thompson's statement was really an argument in support of Dr. Norman's paper. He had found that the friends and even the neighbours of harmless lunatics did their best to keep them at home, and it was only when they became dangerous that they were sent to an asylum. This was his experience both in town and country.

DR. BAKER thought that if the experiment were to be tried the lunatics would have to be classified into the harmless and dangerous patients; of course only harmless patients would be boarded out. Imbeciles were kindly treated by their friends. Another objection to the experiment might be that the Boards of Guardians might not consent.

DR. NORMAN, in reply, explained that time prevented him from entering on the question of classification. If the experiment is to be a success the greatest care must be taken in the cases sent. Much harm to the insane and to the system might arise if unsuitable cases were drafted out to the so-called insane colonies. On account of the better supervision he preferred the system as worked in Berlin to that in Scotland. As regarded the difficulty about hearing complaints, he said that this difficulty exists, he feared, to an even greater degree in asylums. The hosts of the patients would be interested in preventing things going wrong, and it would be to their advantage to keep their patients alive and in good health as long as possible. The sum paid them would, to people in their station, be of very considerable import. Concerning the rebellion of the neighbours this is a thing that has always been talked about. Even when an asylum is about to be built they threaten to leave the district, but when they find that it brings a good deal of money into the place they remain there. Ireland, he thought, would be a good place to try the experiment in, as it abounded in small holdings, and the people, on account of the payment, would be glad to receive patients. The poor of the Irish race he believed to be kind to those in distress.

The Need for Women as Poor Law Guardians.

DR. E. WINIFRED DICKSON read a paper on this subject. [It will be found at page 309.]

DR. ROCHE thought that the election of ladies to this post might cause more human sympathy to be indulged in towards the young and the old

feeble inmates of workhouses. He had no sympathy at all for the able-bodied inmate and the tramp.

DR. DELAHOYDE said that the Acts relating to the Poor Law system were passed nearly half a century ago; that during this time the country had changed, and that they were now unsuitable. It bears eloquent testimony to O'Connell, who prophesied that it would bring about the demoralisation of the country. He considered that the Boards of Guardians had also degenerated. Their members were not now the broad-minded and educated gentlemen who used to sit on them. The present members pay very little attention to any suggestion from their medical officers, and try to repress them whenever they get a chance. Since he had listened to Miss Dickson's paper, he viewed in a much more favourable light the election of lady guardians.

DR. NORMAN said he thought that the power should be given to ladies to serve as guardians. There was little doubt but that it would be greatly to the benefit of the poor. It would also be more easy to manage the female officials if there were lady guardians.

DR. DOYLE briefly expressed his approval of Miss Dickson's paper and his sympathies with the substance of it. He thought the Poor Law system needed to be completely amended to get rid of the jobbery at present existing in it.

DR. THOMPSON said that he had found that the present members of Poor Law Boards frequently gave more time to their work than their wealthy predecessors. They have, of course, a very poor idea of the position of their medical officers, but with time and experience this would improve. There was no doubt about the frightful amount of jobbery that existed in some workhouses. He had also met with some glaring instances of a matron treating with shameful leniency an untrustworthy female assistant.

DR. POTTER said he agreed with Dr. Dickson that it would be an immense advantage to country workhouses to have lady guardians. He was on the committee of a Dublin hospital on which there were some ladies and gentlemen. He found that in many points the ladies were able to be of much more use than men.

DR. DICKSON, in replying, stated that she hoped the present Poor Law system would soon be abolished, but that in the meantime she thought some amelioration of the system would be of much service. The English Boards of Guardians will probably soon be merged in the Parish Councils. A workhouse matron, if she were of the right sort, would be very glad to have lady guardians with whom she could consult.

The Section then adjourned.

SECTION OF ANATOMY AND PHYSIOLOGY.

President—ALEC FRASER, M.B.

Sectional Secretary—A. BIRMINGHAM, M.D.

Friday, February 1, 1895.

The PRESIDENT in the Chair.

Exhibits.

The PRESIDENT exhibited two microcephalic brains, and a young Chimpanzee in which the central nervous system had been exposed.

Sections of Central Nervous System.

PROFESSOR SYMINGTON gave a microscopic demonstration of a series of sections of various parts of the central nervous system, stained by Golgi's method, which he had made last summer in Professor Kölliker's Laboratory, in Würzburg. Most of the specimens were hardened and stained by the rapid method, viz., small pieces of fresh tissue were put into a mixture of 1 part of a 1 p. c. solution of osmic acid and 4 parts of a 3·5 p. c. solution of bichromate of potassium. After being a few days in this mixture it was transferred to ·75 p. c. solution of nitrate of silver. All the sections were mounted in xylol-balsam, and so far they had kept perfectly. He had found the methods easier and more reliable than it was generally supposed to be in this country. He must, however, warn beginners that they need not expect to get such perfect pictures as those given in Golgi's great work "*Untersuchungen über den feineren Bau des centralen und peripherischen Nervensystems.*" The illustrations in this book are obviously diagrammatic and constructed from numerous sections.

The PRESIDENT remarked that he would have preferred photographs instead of drawings. Golgi's method was useful only as showing the minute connection of cells.

PROF. PURSER said that this method had entirely revolutionised our ideas of nervous physiology. Before it was thought that there must be complete structural continuity between cells for an impulse to pass. Now it is believed that no cell is in structural continuity with another cell, but only in contiguity. The difficulties that occur with Golgi's method are several:—1st. Uncertainty. One may get a good or bad preparation, even though using the same treatment. A method which stains one cell and leaves fifty other of the same kind unstained, will make one doubtful of the validity of that method. 2nd. The preparations must be made on a particular date. If left longer in the solution, the preparation is destroyed. 3rd. It is not permanent. Sometimes the specimens become covered with a granular cloudiness. The only part of the treatment which he did not follow out accurately was in using oil of cloves instead of xylol, which might account for this. The chief objection is, that some cells stain and some do not. One cannot say that where

the staining stops, the process of the cell also stops. It is necessary to work with young animals to get good results. His preparations were made from rats killed the day they were born. He found the chief difficulty in photographing was that the sections were thick, and that all the processes were not in the same plane, and consequently not in focus at the same time. He found that different parts stained with different degrees of difficulty. The cells of the cerebrum and fascia dentata were easy, but the cells in the spinal cord and cerebellum were not easy to stain. He also found that as the preparations could not be embedded in the usual way that it was very difficult, especially where the cells have long processes, to cut the processes in their entire length.

PROFESSOR M'WEENEY did not think it so very difficult a method. He did not find that it made any difference if he left the preparations in the solution some time longer than necessary. To clear the sections he first placed them in creasote, then in xylol and carbolic acid, and then in xylol. Finally he mounted in Canada balsam, without using a cover glass. He found that there was a tendency to the deposit of a coarse granular precipitate on the physiological surface of the section.

PROFESSOR SYMINGTON, replying, said that if all the cells were stained by this method, one could see nothing but a black mass. Because one cell stains and another does not, there may be theoretical grounds for stating that processes of cells anastomose. But a large number of men had been at work and no reliable observer had seen the nerve fibres uniting; and besides one can often trace some of the fibres to a free point which is very strongly against anastomosing.

Topographical Anatomy of the Pancreas.

PROFESSOR SYMINGTON read a paper on the "Topographical Anatomy of the Pancreas." He had investigated the subject by hardening the abdominal viscera *in situ* by the injection of a 1 p. c. solution of chromic acid. The results differed in several respects from those of His.

PROFESSOR CUNNINGHAM said that there were two ways by which the topography of an organ, such as the pancreas, could be made out—(1) By injecting hardening solutions into the blood vessels. (2) By frozen sections. Up to the present the topography of the pancreas had been known only by His's model. Professor Symington's model had been prepared in the same way as His's. He himself had only studied the pancreas in one frozen section, and in it the form of the pancreas was much nearer the pancreas of Symington than that of His. All abdominal organs, however, are subject to great variations in form.

PROFESSOR SYMINGTON thought that the pancreas was more easily investigated by the chromic acid method of His than by frozen sections. He did not wish to assume that the pancreas always takes the form that it has in his model. The neck part of the head was subject to considerable variations due to the movements of the pylorus.

Cold Water Starch as a Basis.

PROFESSOR SYMINGTON also read a short note on the use of cold-water starch as a basis for an injection mass suitable for ordinary dissecting-room work.

PROFESSOR CUNNINGHAM thought that when in a hurry the addition of spirit to it was an improvement, as it could both preserve and inject at the same time.

The Section then adjourned.

SECTION OF PATHOLOGY.

President—J. A. SCOTT.

Sectional Secretary—J. B. STORY.

Friday, February 8, 1895.

Retro-peritoneal Rupture of the Duodenum.

DR. TAYLOR read a paper on "Retro-peritoneal Rupture of the Duodenum." A drayman was crushed between the point of the shaft of his own dray and the projecting hinder end of the shaft of another dray as he was walking backwards endeavouring to lead his horse through a narrow passage. He walked about half a mile to Sir Patrick Dun's Hospital and asked the resident medical officer on duty to give him something to relieve his pain so that he might continue his work. No symptoms of severe internal injury being apparent he was allowed to proceed back to his work. The pain, however, increased considerably and he went home and lay down. His condition became gradually worse and next day he passed into a state of collapse, and died about 36 hours after the injury.

The *post-mortem* examination revealed evidences of recent peritonitis in the region of the ascending colon and neighbouring coils of small intestine. Behind the colon were found considerable quantities of gas and a watery faecal-coloured fluid.

A rupture of the duodenum near the termination of its second stage was found. The edges of it were lacerated and somewhat swollen. It measured about an inch in its greatest diameter. There was considerable difficulty in finding out where the rupture had taken place, and it was only after a protracted search that its exact site was determined.

DR. ROCHE asked whether there were any symptoms of shock when the man came to hospital. He thought it would have been more prudent to retain the man in hospital.

DR. BENNETT thought, from the fact of the very rapid peritonitis, that there must have been an opening into the peritoneum. He had seen a case of retro-peritoneal urinary extravasation lasting six weeks without producing peritonitis. Supposing the rupture into the peritoneum to have been present, there was no gas in the peritoneal cavity. He had a case

in which a car wheel passed over the abdomen. The man was brought in drunk, and fourteen hours after he passed into a state of collapse, with great pain in the abdomen. The ileum had been cut across high up, and the contents of the intestine passed into the cavity of the abdomen. When he opened the abdomen there was not a trace of gas present, although the intestine was discharging for fourteen hours. Death occurred two or three hours afterwards. So the sign of the loss of hepatic dulness is sometimes a fallacious one.

DR. PARSONS said he had a case of perforation from ulceration near the pylorus in the duodenum, 1st stage. The patient was seized with tolerably severe pain. He was able to go to a doctor, who ordered him some castor oil. The next morning he helped to dress himself. On admission to hospital there was a uniform tympanitic note all over the abdomen, with loss of hepatic dulness. When the abdomen was opened there was a great escape of gas. He had had two other cases of perforation from typhoid fever, in one of which gas was present in the abdominal cavity, in the other not. He thought that free air was present in all cases of perforation of the stomach, and in some cases of perforation of the intestine.

DR. TWEEDY, referring to Dr. Taylor's case, said that the situation of the lesion could be explained. As the second part of the duodenum was fixed, and in this case also tolerably full, any sudden shock would cause rupture there more likely than in a part which was not fixed.

DR. W. J. THOMPSON remembered a case which was brought into St. Vincent's. As he showed symptoms of rupture the abdomen was opened. There was an escape of fæces, but no gas. No trace of any rupture could be found. *Post-mortem*—A rupture the size of a three-penny bit was found at the junction of the second and third stage of the duodenum.

DR. TAYLOR, replying, said that as the man showed no symptoms beyond what one would expect to find in any mild form of injury, and as he was anxious to go away himself, he was not detained. He had examined very carefully for any rupture into the peritoneum, but could find none. If a tear had been present gas might have been found. He agreed with Dr. Tweedy as to the cause of the rupture. The duodenum lay just behind the point struck. When the duodenum is ruptured it is usually in the third part. He agreed with Dr. Thompson as to the great difficulty of finding the rupture. When the abdomen is opened in the middle line it is extremely hard to examine the duodenum. When he had the abdomen freely opened *post-mortem* it took him nearly an hour to find the rupture.

Crystalline Branched Renal Calculus, removed by Nephrolithotomy.

DR. C. YELVERTON PEARSON read notes of a case of nephrolithotomy and exhibited the stone which he had removed from a man, aged thirty-

two, by the lumbar incision. The specimen was a branched calculus of oxalate of lime, weighing grs. 200. A great portion of the surface was covered with beautiful crystals of ammonio-magnesian phosphate.

DR. ROCHE wished to know what were the points which would help to make the diagnosis between stone and tubercular pyelitis. He had a patient six months ago who had a paroxysmal attack of pain running down to the thigh, with partial suppression of the urine. There was no stone in the bladder. She subsequently suffered from frequent attacks, and after a time continually passed a large quantity of pus in the urine but no blood. She had frequent micturition. The diagnosis was between stone in the kidney or tubercular pyelitis. Dr. Little, who saw the case, thought it was the latter. The patient went to London and underwent an operation, when it was found that it was a case of tubercular pyelitis affecting both kidneys.

DR. BENNETT said that the diagnosis could be made by making a microscopic examination for the tubercle bacillus. With regard to the structure of the stone, he differed from Dr. Pearson, and thought it consisted of crystals of ammonio-magnesian phosphate. He remembered seeing a case in which there were no symptoms whatever of calculus, but *post mortem* a large branched crystalline calculus was found. It was pure ammonio-magnesian phosphate. The other kidney had lithate of sodium along the uriniferous tubes as in gout.

DR. ROCHE stated that he had had the urine twice examined for tubercle by Dr. M'Weeney, but that none were found.

DR. TWEEDY said he had had a parallel case to that of Dr. Bennett. There was no clinical history whatever. The stone was found only *post mortem*.

DR. PARSONS fully agreed with Dr. Bennett as to the way of making the diagnosis between tubercular kidney and stone. If not found at first the urine should be frequently examined for tubercle bacilli.

DR. PEARSON, replying, said he attached great importance to the presence or absence of tubercle bacilli in making a diagnosis. He thought it was very rare, however, to have tubercular disease of the kidney without having it also in the genital organs. He would examine the epididymus carefully on both sides, and thought it would be a curiosity if it was not found diseased when tubercular disease of the kidney was present. Also presence of tubercular deposit in the seminal vesicles could be detected by the finger in the rectum. In this case the kidney was abnormally high up, and it might account for the pain being referred to a point immediately below the cartilages in front. The objection to making a lumbar as against an abdominal incision was, that the opposite kidney could not be explored. In this case, however, as there was such pain in the left loin for a few weeks before the operation, he was sure it was the left kidney in which the stone was.

Fracture of the Sacrum.

DR. E. H. BENNETT exhibited an united fracture of the sacrum, in which the line of fracture was oblique, passing from the upper sacral foramen on the left side to the fourth on the left. The lower fragment, unlike the transverse fracture of the sacrum, was displaced upwards and to the left. Dr. Bennett discussed the question as to whether the injury in this case had been a violent kick delivered from behind with the right foot.

The Section then adjourned.

SECTION OF OBSTETRICS.

President—DR. R. D. PUREFOY.

Sectional Secretary—DR. F. W. KIDD.

Friday, January 25, 1895.

The PRESIDENT in the Chair.

Specimens exhibited.

DR. MACAN exhibited :—

- (1) Fibrous Tumour of Ovary.
- (2) Intra-ligamentous Cyst with Sub-peritoneal Fibromata.
- (3) Two Fibro-cystic Tumours of Uterus.

DR. A. SMITH thought the specimens very interesting. The two cystic tumours of the uterus were typical ones. The ovarian tumour, with fibrous tumour of the uterus, seemed to him a cyst of Gaertner's duct. Cases of fibrous ovaries were very interesting. When occurring in this situation the microscopic examination generally shows muscular tissue. He would like to know if any ascites was present, as was usual in these cases?

DR. PUREFOY wished to know, in the case of the intra-ligamentous cyst, what views Dr. Macan had formed as to the structures in which the cyst originated?

DR. SMYLY did not think it a broad ligament cyst, and proposed that it should be referred to the Investigation Committee. [This was seconded and agreed to.]

DR. W. J. SMYLY's specimens :—

1. Ruptured tubal pregnancy. Had one abortion thirteen years ago; made a slow convalescence, being eight weeks confined to bed. Husband died three years after; ten years a widow; married again two months ago; no menstruation since. Hæmorrhage and pain on Jan. 15, supposed to be abortion. Diagnosed by one of the intern pupils as ruptured tubal pregnancy and sent into hospital. On admission signs of acute anæmia;

pulse rapid, feeble, compressible; hæmatocele in Douglas' pouch; hæmorrhage having apparently ceased, no interference. 16th—Somewhat better. 17th—Very much worse. Temperature, 100·4°; pulse, 132. Abdominal section; tube removed with a large quantity of blood and clots. The tube had ruptured on the posterior aspect about one inch from fimbriated extremity. Recovery good.

2. A myomatous uterus as large as an adult head, which had been removed by total extirpation through an abdominal incision. The operation was rendered unusually difficult by the high reflection of the peritoneum, which passed directly backwards to the spine, and by the absence of regular broad ligaments. After the removal of the uterus a large space, about two inches square, was left uncovered by peritoneum. The patient, nevertheless, made a good recovery.

3. An ovarian tumour as large as an adult head filled with blood clot. The patient, a servant girl aged thirty, was perfectly well until the day of admission, when she was suddenly seized with violent abdominal pain, with constipation and vomiting. General peritonitis, with effusion, supervened. Abdominal section; an ovarian tumour with a twisted pedicle removed. Patient died the following day.

4. Suppurating ovarian cysts. The tumour, which was not a dermoid, was removed with considerable difficulty owing to dense adhesions, but convalescence was uninterrupted.

5. Papillomatous cysts of both ovaries. The right ovary was as large as a five months' pregnancy, and the other as large as an adult fist. Patient made a good recovery.

DR. F. W. KIDD exhibited a fibro-myomatous tumour and uterus removed from a patient aged thirty-six. The prominent symptom was hæmorrhage. Great difficulty was experienced in raising tumour out of pelvis; finally it was bisected *in situ*, and stump was treated extra-peritoneally, and although the peritoneum on superior surface of stump below the level of the wire of serre-nœud could not be included in the suture next the stump in the portion of the wound above the stump, yet the patient made a good recovery and is now, seven months after the operation, perfectly well, with the exception of occasional flushings to the head. The stump came away on the 26th day.

Case of Ovarian Dysmenorrhœa, in which a pedunculated Fibroid simulated an enlarged Ovary.

DR. ATTHILL gave the details of a case in which a pedunculated fibrous tumour being attached to the anterior wall of the abdomen above and to the left side of the pubes simulated an ovarian tumour. The patient had for several years suffered intense pain at each menstrual period, evidently due to ovarian causes. The tumour, on an abdominal section being made, was found to be firmly adherent to the abdominal wall,

but was also connected with the uterus by a thin pedicle nearly two inches in length. It was removed. Both ovaries were found to be diseased and were removed. The patient, who had been unfit for any kind of work, and confined to bed for the greater part of each month, recovered rapidly, and is now in the enjoyment of good health.

DR. MACAN did not think that the process of diagnosing ovarian dysmenorrhœa by the exclusion of uterine trouble should always be followed. Very little was known about dysmenorrhœa, and there were often cases in which the physical examination showed nothing. As the tumour was very painful on examination he thought that the case was probably not one of ovarian dysmenorrhœa but that the tumour caused the pain.

DR. SMYLY thought that the pathological condition causing the dysmenorrhœa should always be looked for and treated; just as when treating a cough, the cause and not the symptom should be treated. Nothing was more difficult than to diagnose the conditions of the ovary which produce dysmenorrhœa. He had operated on only one case, that of cirrhosis of the ovaries. They were examined by Dr. M'Weeney. One was found completely destroyed, the other nearly so. He questioned whether in this case, the tumour having been removed, it would not have been better to leave the ovaries. If they were removed to prevent the further growth of myomata in the uterus he thought it justifiable.

DR. A. SMITH believed that an ovary could cause dysmenorrhœa. He had shown one to the Academy which was a good example of a retention cyst. He had removed this ovary, leaving the other behind. Nothing else was done, and the pain ceased. He agreed with Dr. Macan in thinking that the fibroid tumour was, in Dr. Atthill's case, the cause of the pain, especially as there was evidence of inflammatory trouble when the abdomen was opened. He would have been inclined not to have removed the ovaries.

DR. HORNE said he had assisted at the operation. It was not the size of the tumour but the intense pain the patient suffered from which led to the operation. Some years before the woman, on account of the violent pain, went to a doctor, who divided the cervix. After that there was inflammatory trouble which caused matting of the parts in the pelvis. The tumour lay to the left side, but they did not know whether it was an enlarged ovary, a greatly enlarged tube, or a fibroid. When the abdomen was opened it was found necessary to remove the tumour before proceeding further. The ovaries were then found in a cystic condition and were removed. Fibroid tumours seldom give rise to pain unless they press on neighbouring organs.

DR. MORE MADDEN expressed his entire concurrence with the treatment carried out by Dr. Atthill. He had very frequently seen great dysmenorrhœa caused by very slight abnormal conditions of the ovaries,

but has not seen such dysmenorrhœa produced by small tumours of the uterus unless they interfered, by their position, with the function of the ovaries or Fallopian tubes. He thought it was evidently a case of ovarian dysmenorrhœa. He thought it was often impossible to discover the cause of the dysmenorrhœa.

DR. PUREFOY thought that cases of dysmenorrhœa were difficult to treat, especially those called ovarian dysmenorrhœa. In his opinion the pain is not always in exact proportion to the pathological condition of the ovaries. Many have ovaries showing considerable pathological change in cases in which the patient has not complained of much pain. In this case he understood Dr. Atthill mentioned two kinds of pain—dysmenorrhœa some years ago which had increased, and also latterly a constant pain, which, in his opinion, was due to the tumour.

DR. ATTHILL, replying, said he would not have thought of removing the ovaries unless he had thought that they were radically diseased. He had removed the ovaries only six times. The patient had never referred her pain or any of her sufferings to the tumour. One of the ovaries had a cyst in it the size of a walnut, the other had a smaller cyst in it. He thought their removal perfectly justifiable. He would not have removed them if they had not been diseased. The uterus was enlarged, but had no nodule in it.

The Section then adjourned.

ANTIPIRYN AS A HÆMOSTATIC AND ANALGESIC.

DR. ROSWELL PARK (*Medical News*, Philadelphia, LXV., 24) advocated the use of antipyrin as a hæmostatic in surgery. It checks oozing, and is unirritating and slightly antiseptic. A four or five per cent. solution should be used. If sprayed into the nose it relieves headache, coryza, &c., and the spray also relieves acute pharyngitis.

HYPNOTISM AND MURDER.

THE *Boston Medical and Surgical Journal* appears to believe the following, and comments upon it seriously:—"Not long ago a Kansas farm-hand named Macdonald, murdered Thomas Pelton. When brought to trial, Macdonald urged in his defence that he had been hypnotised by Pelton's enemy, Gray, and compelled to commit the deed by hypnotic suggestion. The jury therefore acquitted Macdonald and adjudged Gray guilty of murder in the first degree. Their verdict has been set aside by the Supreme Court and a new trial granted. Macdonald, the actual murderer, of course goes free, and Gray can hardly be convicted on a new trial." As a matter of fact, there was no evidence or suggestion of hypnotism in the case from beginning to end.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.; F.R.C.P.I.;
F.R. Met. Soc.; Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS

For four Weeks ending Saturday, May 18, 1895.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	April 27.	May 4.	May 11.	May 18.		April 27.	May 4.	May 11.	May 18.
Armagh -	21·0	21·0	42·1	14·0	Limerick -	16·8	21·1	29·5	23·9
Belfast -	32·8	27·7	27·1	25·6	Lisburn -	25·7	4·3	21·3	12·8
Cork -	19·4	30·5	23·5	24·2	Londonderry	26·7	31·4	22·0	28·3
Drogheda	39·5	17·6	17·6	13·2	Lurgan -	50·2	59·3	22·8	36·5
Dublin -	26·5	26·7	25·7	26·3	Newry -	32·2	8·1	16·1	16·1
Dundalk -	12·6	8·4	16·8	0·0	Sligo -	55·8	35·5	10·2	20·3
Galway -	52·9	41·5	8·8	11·8	Waterford -	32·5	40·0	30·0	27·5
Kilkenny	23·6	33·0	14·2	18·9	Wexford -	18·1	27·1	36·1	22·6

In the week ending Saturday, April 27, 1895, the mortality in thirty-three large English towns, including London (in which the rate was 17·9), was equal to an average annual death-rate of 18·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 20·6 per 1,000. In Glasgow the rate was 21·5, and in Edinburgh it was 17·1.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 28·5 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts

were equal to an annual rate of 1·4 per 1,000, the rates varying from 0·0 in nine of the districts to 5·1 in Sligo—the 11 deaths from all causes registered in that district comprising 1 from measles. Among the 172 deaths from all causes registered in Belfast are 2 from measles, 1 from typhus, 3 from whooping-cough, 1 from diphtheria, 2 from enteric fever, and 1 from diarrhoea. The 28 deaths in Cork comprise 1 from typhus, 2 from whooping-cough, and 1 from enteric fever; and the 17 deaths in Londonderry comprise 3 from whooping-cough.

In the Dublin Registration District the registered births amounted to 189—100 boys and 89 girls; and the registered deaths to 181—90 males and 91 females.

The deaths, which are 14 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 27·0 in every 1,000 of the population. Omitting the deaths (numbering 8) of persons admitted into public institutions from localities outside the district, the rate was 26·5 per 1,000. During the first seventeen weeks of the current year the death-rate averaged 35·9, and was 4·3 over the mean rate in the corresponding period of the ten years, 1885–1894.

The number of deaths from zymotic diseases registered was 20, being 1 under the number in the preceding week and 3 below the average for the 17th week of the last ten years. The 20 deaths comprise 1 from small-pox (that of a woman aged 33 years, vaccinated), 13 from influenza and its complications—being 5 less than the number under that heading in the preceding week—1 from whooping-cough, 1 from diphtheria, 1 from enteric fever, 1 from diarrhoea, and 1 from erysipelas.

The number of cases of small-pox admitted to hospital was 14, being 4 under the admissions in the preceding week, but 4 over the number admitted in the week ended April 13. Twelve small-pox patients were discharged, 2 died, and 61 remained under treatment on Saturday last, being equal to the number in hospital on the previous Saturday. This number is exclusive of 34 convalescents from the disease under treatment in the South Dublin Union Small-pox Hospital, Kilmainham.

Eight cases of scarlatina were admitted to hospital, against 6 admissions in the preceding week; 15 patients were discharged, and 51 remained under treatment on Saturday, being 7 under the number in hospital at the close of the preceding week.

The hospital admissions for the week included also 3 cases of enteric fever and 3 of typhus. During the preceding week 6 cases of enteric fever had been admitted, but no cases of typhus had been received. Twenty-one cases of the former and three of the latter disease remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered was 39, being 9 under the number for the preceding week, and 1 below the average for the 17th week of the last ten years. The 39

deaths comprise 28 from bronchitis and 7 from pneumonia or inflammation of the lungs.

In the week ending Saturday, May 4, the mortality in thirty-three large English towns, including London (in which the rate was 16·6), was equal to an average annual death-rate of 17·5 per 1,000 persons living. The average rate for eight principal towns of Scotland was 20·9 per 1,000. In Glasgow the rate was 22·3, and in Edinburgh it was 19·8.

The average annual death-rate in the sixteen principal town districts of Ireland was 27·4 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·6 per 1,000, the rates varying from 0·0 in seven of the districts to 9·4 in Kilkenny—the 7 deaths from all causes registered in that district comprising 1 from whooping-cough and 1 from diarrhœa. Among the 145 deaths from all causes registered in Belfast are 2 from whooping-cough, 1 from simple continued fever, 3 from enteric fever, and 3 from diarrhœa. The 44 deaths in Cork comprise 2 from whooping-cough and 1 from diphtheria. The 20 deaths in Londonderry comprise 3 from whooping-cough.

In the Dublin Registration District the registered births amounted to 263—192 boys and 131 girls; and the registered deaths to 183—88 males and 95 females.

The deaths, which are 1 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 27·3 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 26·7 per 1,000. During the first eighteen weeks of the current year the death-rate averaged 35·5, and was 4·1 over the mean rate in the corresponding period of the ten years, 1885–1894.

Only 16 deaths from zymotic diseases were registered, being 4 under the number for the preceding week, and 6 below the average for the eighteenth week of the last ten years. They consist of 2 from small-pox (2 girls aged respectively 9 and 14 years, the former unvaccinated and the latter vaccinated), 8 from influenza and its complications—being 5 less than the number under that heading in the preceding week—4 from whooping-cough, 1 from diphtheria, and 1 from erysipelas.

Seventeen cases of small-pox were admitted to hospital, being 3 over the admissions in the preceding week, but 1 under the number admitted in the week ended April 20. Eighteen small-pox patients were discharged, 2 died, and 58 remained under treatment on Saturday last, being 3 under the number in hospital at the close of the preceding week. This number is exclusive of 30 convalescent patients in the South Dublin Union Small-pox Hospital, Kilmainham.

The number of cases of scarlatina admitted to hospital was 7, being 1

under the admissions for the preceding week, and 1 over the number for the week ended April 20. Nine patients were discharged, 1 died, and 48 remained under treatment on Saturday, being 3 under the number in hospital on that day week.

The hospital admissions included also 5 cases of typhus and 5 of enteric fever, against 3 cases of each of these diseases admitted during the preceding week—8 cases of typhus and 22 of enteric fever remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had fallen from 48 in the week ended April 20 to 39 in the following week, rose to 43, or 6 in excess of the average for the corresponding week of the last ten years. The 43 deaths comprise 28 from bronchitis and 13 from pneumonia or inflammation of the lungs.

In the week ending Saturday, May 11, the mortality in thirty-three large English towns, including London (in which the rate was 16·6), was equal to an average annual death-rate of 17·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18·7 per 1,000. In Glasgow the rate was 18·4, and in Edinburgh it was 16·5.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 25·2 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·0 per 1,000, the rates varying from 0·0 in eleven of the districts to 4·6 in Lurgan—the 5 deaths from all causes registered in that district comprising 1 from diarrhoea. Among the 142 deaths from all causes registered in Belfast are 2 from typhus, 1 from whooping-cough, 1 from simple continued fever, 3 from enteric fever, and 1 from diarrhoea.

In the Dublin Registration District the registered births amounted to 185—87 boys and 98 girls; and the registered deaths to 184—101 males and 83 females.

The deaths, which are 9 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 27·4 in every 1,000 of the population. Omitting the deaths (numbering 12) of persons admitted into public institutions from localities outside the district, the rate was 25·7 per 1,000. During the first nineteen weeks of the current year the death-rate averaged 35·0, and was 3·9 over the mean rate in the corresponding period of the ten years, 1885-1894.

Only 15 deaths from zymotic diseases were registered, being 5 below the average for the corresponding week of the last ten years, and 1 under the number in the previous week. They comprise 1 from small-pox (that of a man aged 31 years, vaccinated), 6 from influenza and its com-

plications, 3 from whooping-cough, 1 from enteric fever, and 2 from diarrhœa.

The number of cases of small-pox admitted to hospital was 15, being 2 under the admissions in the preceding week. Twenty-nine small-pox patients were discharged, one died, and 43 remained under treatment on Saturday, being 15 under the number in hospital on that day week. This number is exclusive of 33 convalescent patients, who remained under treatment in the South Dublin Union Small-pox Hospital, Kilmainham.

Thirteen cases of scarlatina were admitted to hospital, against 7 admissions in the preceding week. Eight patients were discharged, and 53 remained under treatment on Saturday, being 5 over the number in hospital on the previous Saturday.

Only one case of typhus and but one of enteric fever were admitted to hospital; in the preceding week 5 cases of each of these diseases had been received. Nine cases of typhus and 19 of enteric fever remained under treatment in hospital on Saturday.

Forty-four deaths from diseases of the respiratory system were registered, being 1 over the number for the preceding week, and 11 in excess of the average for the 19th week of the last ten years. They comprise 31 from bronchitis and 9 from pneumonia or inflammation of the lungs.

In the week ending Saturday, May 18, the mortality in thirty-three large English towns, including London (in which the rate was 16·5), was equal to an average annual death-rate of 17·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 21·1 per 1,000. In Glasgow the rate was 22·5, and in Edinburgh it was 20·7.

The average annual death-rate in the sixteen principal town districts of Ireland was 24·6 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 1·4 per 1,000, the rates varying from 0·0 in eleven of the districts to 4·7 in Londonderry—the 18 deaths from all causes registered in that district comprising 1 from scarlatina, 1 from whooping-cough, and 1 from diphtheria. Among the 134 deaths from all causes registered in Belfast are 2 from scarlatina, 3 from typhus, 2 from whooping-cough, 2 from enteric fever, and 2 from diarrhœa. The 35 deaths in Cork comprise 3 from whooping-cough. The 17 deaths in Limerick comprise 2 from whooping-cough and 1 from diarrhœa.

In the Dublin Registration District the registered births amounted to 258—138 boys and 120 girls; and the registered deaths to 186—82 males and 104 females.

The deaths, which are 8 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality

of 27·7 in every 1,000 of the population. Omitting the deaths (numbering 10) of persons admitted into public institutions from localities outside the district, the rate was 26·3 per 1,000. During the first twenty weeks of the current year the death-rate averaged 34·7, and was 3·8 over the mean rate in the corresponding period of the ten years, 1885–1894.

Only 11 deaths from zymotic diseases were registered, being 12 under the average for the corresponding week of the last ten years and 4 under the low number for the week ended May 11. They comprise 2 from scarlet fever (scarlatina), 4 from influenza and its complications, one from whooping-cough, 2 from enteric fever, and one from erysipelas. No deaths from small-pox were recorded.

The number of cases of small-pox admitted to hospital was 12, being 8 under the admissions for the preceding week and 5 under the number for the week ended May 4. Eleven patients were discharged, and 44 remained under treatment on Saturday last, being 1 over the number in hospital at the close of the preceding week. This number is exclusive of 35 convalescent patients in the South Dublin Union Small-pox Hospital, Kilmainham.

Twelve cases of scarlatina were admitted to hospital, being 1 under the admissions for the preceding week, but 5 over the number for the week ended May 4. Thirteen patients were discharged, and 52 remained under treatment on Saturday, being 1 under the number in hospital on Saturday, May 11.

The hospital admissions for the week included, also, one case of enteric fever, but no cases of typhus were received: 15 cases of the former and 9 of the latter disease remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had risen from 39 in the week ended April 27 to 43 in the following week, and 44 in the week ended May 11, fell to 25, or 7 under the average for the corresponding week of the last ten years. The 25 deaths comprise 14 from bronchitis and 9 from pneumonia or inflammation of the lungs.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of April, 1895.

Mean Height of Barometer,	-	-	-	29·863 inches.
Maximal Height of Barometer (on 11th, at 9 p.m.),	-	-	-	30·479 "
Minimal Height of Barometer (on 6th, at 4 45 p.m.),	-	-	-	29·287 "
Mean Dry-bulb Temperature,	-	-	-	47·8°.
Mean Wet-bulb Temperature,	-	-	-	44·9°.
Mean Dew-point Temperature,	-	-	-	41·8°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	-	·265 inch.
Mean Humidity,	-	-	-	80·5 per cent.
Highest Temperature in Shade (on 21st),	-	-	-	64·0°.
Lowest Temperature in Shade (on 4th),	-	-	-	32·9°.
Lowest Temperature on Grass (Radiation) (on 5th),	-	-	-	27·8°.
Mean Amount of Cloud,	-	-	-	61·2 per cent.
Rainfall (on 13 days),	-	-	-	1·149 inches.
Greatest Daily Rainfall (on 26th),	-	-	-	·252 inch.
General Direction of Wind,	-	-	-	Variable.

Remarks.

Speaking generally, April, 1895, was a favourable and an "average" month. The wind was singularly variable, blowing from all points of the compass in nearly equal proportion. The distribution of atmospheric pressure was for the most part cyclonic, but at Eastertide a large anti-cyclone lay over the British Islands and the North Sea for several days. This high pressure caused nipping easterly wind, but fine, dry weather.

In Dublin the arithmetical mean temperature (48·1°) was 0·4° above the average (47·7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 47·8°. In the thirty years ending with 1894, April was coldest in 1879 (the cold year) (M. T. = 44·5°), and warmest in 1893 (M. T. = 51·4°). In 1886 the M. T. was 46·3°, in 1887 it was as low as 45·1°, in 1888 it was (as also in 1891) only 45·7°; in 1889, 46·1°; in 1890, 47·3°; in 1892, 46·2°; and in 1894, 49·9°. The month of April, 1893, was the warmest for at least 30 years.

The mean height of the barometer was 29·863 inches, or 0·013 inch above the average value for April—namely, 29·850 inches. The mercury rose to 30·479 inches at 9 p.m. of the 11th, having fallen to 29·287 inches at 4 45 p.m. of the 6th. The observed range of atmospheric pressure was, therefore, 1·192 inches—that is, a little less than an inch and two-tenths.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 47·8°, or 4·8° above the value for

March, 1895. Using the formula, $\text{Mean Temp.} = \text{Min.} + (\text{max.} - \text{min.} \times .476)$, the value is also 47.8° , or 0.4° above the average mean temperature for April, calculated in the same way, in the twenty-five years, 1865–89, inclusive (47.4°). The arithmetical mean of the maximal and minimal readings was 48.1° , compared with a twenty-five years' (1865–1889 inclusive) average of 47.7° . On the 21st the thermometer in the screen rose to 64.0° —wind, S.W.; on the 4th the temperature fell to 32.9° —wind, calm. The minimum on the grass was 27.8° on the 5th. There were 5 frosty nights on the grass.

The rainfall was 1.149 inches, distributed over 13 days. The average rainfall for April in the twenty-five years, 1865–89, inclusive, was 2.055 inches, and the average number of rainy days was 15.2. The rainfall, therefore, was considerably below the average, while the rainy days were also in defect. In 1877 the rainfall in April was very large—4.707 inches on 21 days; in 1882 also, 3.526 inches fell on 20 days, and in 1894, 3.123 inches on 20 days. On the other hand, in 1873, only .498 inch was measured on 8 days; and in 1870, only .888 inch fell, also on 8 days. The fall in 1890 was 1.575 inches on 14 days, in 1891, 1.553 inches on 14 days, in 1892, 1.114 inches on 13 days, and in 1893, 1.046 inches on 7 days.

No halos or fogs were observed. High winds were noted on 9 days, but never reached the force of a gale in Dublin. Sleet and hail fell on the 1st, hail also on the 11th. The temperature exceeded 50 in the screen on every day except 6, compared with every day but 1 in 1894, every day in 1893, 24 days in 1892, and 18 days in 1891. As in April, 1894, it rose to or above 60° on only 3 days, but never fell to 32° in the screen. The minimum on the grass was 32° , or less, on five nights, compared with five nights in 1893, and only one night in 1894. The mean lowest temperature on the grass was 37.8° , compared with 40.0° in 1894, 38.2° in 1893, 32.4° in 1892, 34.1° in 1891 and 1890, 34.4° in 1889, 34.6° in 1888, and 31.6° in 1887. There was an aurora borealis on the evening of the 11th.

Until Friday, the 5th, polar winds prevailed and temperature ruled low, the nights being even frosty. On the day named a large atmospheric depression approached Ireland and Scotland from the Atlantic, and under its influence clouds increased, temperature rose, the wind backed towards S.W. and freshened, and rain fell from time to time. Early on Monday, the 1st, cold rain and sleet fell in Dublin, and there was a heavy hail shower at 11 30 a.m. The weather then remained fine and dry, but cold for the time of year, until Friday. During this period a deep depression passed across Scandinavia, where snow and frost resumed their sway. In Scotland also snow or sleet fell, and sharp night frosts occurred. At 8 a.m. of Friday a broad band of high barometer—30.2 inches and upward—stretched from the S. of Ireland across England to France and

Switzerland, but pressure had begun to give way briskly in the N.W. On Saturday the barometer stood about an inch lower in Dublin than it had done on Thursday evening, and the centre of a deep depression lay over the N. of Scotland, where the barometer was down to 28·82 inches. In Dublin the barometer rose to 30·288 inches at 9 p.m. of Thursday (wind, calm), and fell to 29·287 inches at 4·45 p.m. of Saturday (wind, W.N.W.). On Thursday the screened minimum sank to 32·9°. On Saturday, the screened maximum rose to 52·7°. The prevailing wind was northerly up to Friday, then W.S.W. The rainfall was ·106 inch on three days, ·041 inch being measured on both Friday and Saturday.

Favourable weather characterised the week ended Saturday, the 13th. It is true that the conditions either of atmospheric pressure or of air temperature were not stable; nevertheless the weather was dry, and there were intervals of pleasant, warm sunshine, which gave a considerable impetus to vegetation. Speaking generally, the barometer stood low, and a cyclonic distribution of pressure prevailed at the beginning of the period, whereas a high barometer and anticyclonic conditions held at its close. On Sunday morning, two areas of low pressure, in which the barometer was down to 28·60 inches, lay over the southern half of Scandinavia, and several inequalities of pressure were observed at the British and Irish Stations. The weather was consequently cold and showery, with northerly winds. During the next three days depressions moved northwards or north-eastwards outside our N.W. coasts, causing fresh S.W. to W. winds and changeable weather. The S.W. wind brought genial warmth for a short while, and on Tuesday the thermometer rose above 60°—to 60·8°—in the screen for the first time in Dublin since November 1, 1894, on which day the maximum had been 61·6°. On Thursday an area of high pressure came in from the Atlantic, and by evening the barometer rose to 30·50 inches and upwards in the S. of Ireland. Temperature fell fast at night, and ground frost was felt. Good Friday proved cloudy and cool, but Saturday became brilliant as the day advanced. In Dublin the mean height of the barometer was 29·994 inches, pressure having been only 29·473 inches at 9 a.m. of Sunday (wind, N.N.W.), but rising to 30·479 inches at 9 p.m. of Thursday (wind, N.W.). The corrected mean temperature was 48·3°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 47·9°. On Tuesday the thermometer rose to 60·8°, on Friday it fell to 35·5° in the screen. The prevalent winds were S.W. and N.W. Very light showers fell on several days, but the resulting rainfall was only ·003 inch—a quantity which is not considered registrable.

Favourable, springlike weather prevailed during the week ended Saturday, the 20th. On Sunday and Monday, the British Isles were entirely under the influence of an anticyclone, the centre of which was off the east of Scotland at 8 a.m. of Sunday, when the barometer read

30·40 inches at Aberdeen, 30·18 inches at Valentia Island, and 30·09 inches in the Scilly Isles. Easterly winds, and cold, dry, generally bright weather prevailed. In Dublin the mean temperature of Easter Day was only 44·1°, or 5·8° below that of last Christmas Day, which was, however, unusually mild, the mean temperature being 49·9°. At the beginning of the week a depression lay over Spain and Portugal, where thunderstorms and heavy rain occurred. This disturbance moved northwards, reaching the Bay of Biscay on Tuesday and—in a modified form—the British Islands on Thursday. Thunderstorms accompanied the passage of its eastern side across France on Tuesday and England on Wednesday. As this disturbance travelled northwards the wind shifted to W. in its rear, and the air became much milder and more humid than of late, while genial showers fell in most districts. On Saturday a new depression, with steeper baric gradients, came in over Ireland from S.W., causing freshening southerly winds, clouds, and finally rain. In Dublin the mean atmospheric pressure was 29·880 inches, the barometer reading as high as 30·310 inches at 9 a.m. of Sunday (wind, E.), but only 29·595 inches at 7 a.m. of Thursday (wind, W.S.W.). The corrected mean temperature was 48·2°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 48·1°. On Monday the screened thermometers sank to 38·2°; on Friday they rose to 58·7°. Rain fell on two days to the amount of ·063 inch, ·043 inch being measured on Saturday. The wind was at first easterly, then westerly, and finally southerly.

During the week ended Saturday, the 27th, exceedingly changeable, showery or rainy, and finally cold, weather prevailed. Over the British Isles and in their immediate neighbourhood the distribution of atmospheric pressure remained cyclonic—after Wednesday it became very complex, a number of areas of low pressure being observed at the same time. As always happens when this is the case, there was a considerable mingling of easterly and south-westerly air-currents, causing very unstable temperature. Sunday was at first mild and pleasant, the thermometer rising in the shade to 64° in Dublin and in some English towns (to 65° at Cambridge). In the evening heavy showers fell. Monday turned out wet owing to the passage northwards outside the West of Ireland of a large Atlantic depression. Tuesday was fine to showery, thunder occurring in the North of Ireland. Wednesday was rainy and cold. On Thursday morning centres of low pressure were found over Caithness and the English Channel and to the southward of Ireland. Thunderstorms occurred in France and subsequently at Roche's Point, Cork Harbour. Friday proved squally, wet and cold; but on Saturday the weather improved, becoming drier and brighter while continuing cold. In Dublin the mean height of the barometer was 29·588 inches, the range being from 29·299 inches at 9 p.m. of Monday (wind, S.S.W.) to 29·991 inches at 9 p.m. of Saturday (wind, N.W.). The corrected mean

temperature was 50·7°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 49·7°. On Sunday the screened thermometers rose to 64·0°; on Thursday they fell to 42·1°. The rainfall measured ·797 inch on six days, ·252 inch falling on Friday. The wind was variable in both force and direction—it was chiefly S.W. at first, afterwards N.N.W. On Saturday evening a conjunction of Venus and the crescent moon formed a beautiful sight in the western sky after sunset.

Sunday, the 28th, was cool and fair to cloudy at times. On Monday, the 29th, the weather was mild but changeable. On Tuesday, the 30th, it was cloudy to overcast and finally very wet.

The rainfall in Dublin during the four months ending April 30th amounted to 10·233 inches on 65 days, compared with 9·151 inches on 73 days in 1894, 6·242 inches on 56 days in 1893, 5·922 inches on 61 days in 1892, only 3·203 inches on 46 days in 1891, 9·045 inches on 59 days in 1890, 8·345 inches on 74 days in 1889, 8·090 inches on 58 days in 1888, and a twenty-five years' average of 8·466 inches on 66·2 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall amounted to 2·475 inches on 10 days. The heaviest falls in 24 hours were ·690 inch on the 22nd, ·530 inch on the 25th, and ·450 inch on the 20th. In 1894, the April rainfall at this station was 4·171 inches on 17 days; in 1893, it was 1·055 inches on 5 days. The total rainfall in 1895 up to April 30, was 12·570 inches on 54 days, compared with 12·456 inches on 70 days in 1894 and 8·530 inches on 54 days in 1893.

At Cloneevin, Killiney, Co. Dublin, 1·60 inches of rain fell on 14 days in April. The maximal fall in 24 hours was ·37 inch on the 22nd. The average rainfall in April of the ten preceding years was 1·716 inches on 13·2 days. Since January 1, 1895, 11·28 inches of rain fell at this station on 66 days, compared with 9·09 inches on 74 days in 1894, and 6·94 inches on 57 days in 1893.

CHRISTIAN SCIENCE.

THE following interesting reply was returned to a circular letter soliciting subscriptions to a certain medical journal (*Pacific Drug Review*):

Faribault, Minn., February 22, 1894.

Your copy of the . . . Jurnal come, and the letter to—askin me to send fifty cens and git it fur a yeer, I don't need no jurnals. When I git a tuff case I go off inter sum secret plase and tell the lord all about it and wate for him to put inter my minde what tor do. Thats bettern jurnals and syklopedes and such. If we hed more lord trustin doctors and less colleges weed fare better. The lord noes morn all the docters and if we go to him fur noledge it ill be bettern jurnals. Fraternally in the lord.—A CARISTUM DOCTER.—*Amer. Pract. and News.*

PERISCOPE.

THE SOCIETY OF TRAINED MASSEUSES: TRAINED NURSES' CLUB.

THE Society of Trained Masseuses has been formed for the purpose of improving the training of, and organising an independent examination for, competent Masseuses. It is hoped this may establish a more uniform standard of proficiency and qualification. The Council holds periodical examinations for candidates, who are required to produce satisfactory evidence of training and moral character. Candidates will be examined in the Theory and Practice of Massage by two examiners other than their own instructors. Notice of the examinations will be given in *Nursing Notes*. Successful candidates, after signing the required undertaking, will receive the formal certificate of the Society, and will then be entitled to have their names placed on its roll. Further particulars can be obtained on application to Mrs. Arthur, Hon. Sec., Society Trained Masseuses, at the address of the Club—viz, 12 Buckingham-street, Strand, London, W.C. The Council are—Miss Buckworth, Miss Griffiths, Miss Manley, Miss G. Manley, Miss Molony, Mrs. Palmer, Miss Robinson; Hon. Secretaries—Mrs. Arthur, and a Member of the Council Trained Nurses' Club, *ex-officio*. The rules of the Society, which must be signed by each successful candidate, are as follows:—1. No massage to be undertaken except under medical directions; no general massage for *men* to be undertaken; occasional exceptions may be made at a doctor's special request for urgent or nursing cases. 2. No advertising permitted in any but strictly professional papers. 3. No sale of drugs to patients allowed. Among the members of the Council we observe the name of Miss Molony, who was for many years Lady Superintendent at St. Mark's Ophthalmic Hospital, Dublin, and afterwards served as Ward Sister ("Sister Accident") at Guy's Hospital, London.

L'UNION MÉDICALE DU CANADA.

THIS is a monthly journal published in Montreal. Its language is French. There is little original matter in the number now before us, most of it being occupied by excerpts from other periodicals, and notices of European treatment, but these are carefully selected. Some of them, indeed, are only "*un peu médical*," and would not suit our own severe pages. On certain subjects American and French journals are more plain-spoken than others.

EXFOLIATION OF COCHLEA, &c.

AURAL surgeons will be interested in a case brought before the St. Louis (Mo.) Medical Society by Dr. M. A. Goldstein, and published in the March issue of the *Saint Louis Medical and Surgical Journal*. The patient was a coloured boy, six and a half years old. The "cochlea and deep struc-

tures of the 'petrosa' were removed in a necrosed condition. "Throughout the entire course of treatment since the operation there has been absolutely no pain, tinnitus aurium, vertigo, nausea and vomiting, or febrile reaction." Hearing on the diseased side continued. An hour after the operation the patient was up and walking home, with equilibrium unaffected.

DOCTORS' FEES.

THE *Journal of the American Medical Association* devotes an article to this interesting subject, *apropos* of the introduction of a Bill to regulate doctors' fees, introduced into the Illinois State Senate by one O'Dwyer. Our countryman proposes to make one hundred dollars the greatest fee for any surgical operation. Further details are not supplied, *ex uno disce omnes*. Our contemporary proceeds to demonstrate from history that it was not reserved to an O'Dwyer, in the nineteenth century, to regulate medical fees by law. He mentions, incidentally, a fact to us previously unknown—that two law-dispensaries exist, one in connection with the University of Pennsylvania, the other with the North Western University; "said to be principally managed by students."

DANGERS OF CHICAGO STREETS.

THE death of the venerable Irish-American, Dr. Dyas, has brought prominently into notice the reckless disregard of life in Chicago, which stirs up the *Journal of the American Medical Association* to say that "in the matter of purposeless and wholly unnecessary homicide by common carriers, Chicago has for years maintained a murderous preëminence." Our contemporary gives figures. In 1894, 308 persons were killed by railroads within the city limits, and 46 by the street cars. Those only maimed are estimated at ten times as many. The numbers were below the average. In 1893, 462 were killed by these two methods—"nearly one-third the total number of deaths from all forms of violence." The Commissioner of Health, in his Annual Report, attributes this "railroad slaughter" to the fact "that there are over two thousand miles of railroad tracks within the corporate limits of the city, with more than three thousand street-crossings at grade, over which nearly one thousand four hundred trains run daily; and adds: 'These accidents and the resulting slaughter and disabilities can not, probably, wholly or in any large measure be obviated without an abandonment of the surface-crossings; but it may be noted that one of the main lines east from Chicago, using the block system of signals, claims to have carried 428,000 passengers during the World's Fair period without injury to a single individual.' And yet not only does the municipality neglect to enforce the use of the block-signal system on the railroads within the city limits, but it does not even compel the companies to maintain gates or other safeguards at these crossings, nor to employ signal men to warn of the approach of these rapidly-moving engines of death and destruction."

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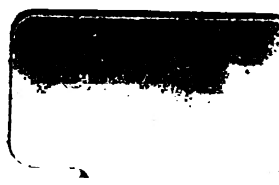
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